

**Use of sustainability indicators in forest policy and practice in Southeast Asia: experiences, lessons learned, needs and potential for further development of indicators for enhanced use**

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## Table of Contents

|  | Page |
|--|------|
| <b>List of Tables</b>  | 4    |
| <b>List of Annexes</b>   | 5    |
| <b>Acronyms and Abbreviations</b>  | 7    |
| <b>Executive Summary</b>   | 9    |
| 1.0 <b>Introduction and background</b>   | 20   |
| 2.0 <b>Material, methods and analysis</b>  | 21   |
| 3.0 <b>Approaches and current use of sustainability indicators in policy and practice</b>  | 27   |
| (a) <i>Use of criteria and indicators in promoting dialogue and in policy</i>  | 27   |
| (b) <i>Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability</i>                  | 28   |
| (c) <i>Use of criteria and indicators as a framework to support sustainable practices</i>  | 30   |
| 4.0 <b>Experiences, lessons learned and associated challenges in the use of sustainability indicators in policy and practice</b> | 33   |
| (a) <i>Use of criteria and indicators in promoting dialogue and in policy</i>  | 33   |
| (b) <i>Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability</i>                  | 34   |
| (c) <i>Use of criteria and indicators as a framework to support sustainable practices</i>  | 35   |
| 5.0 <b>Future use and potential of using sustainability indicators in policy and practice</b>                                    | 36   |
| (a) <i>Use of criteria and indicators in promoting dialogue and in policy</i>  | 36   |
| (b) <i>Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability</i>                  | 37   |
| (c) <i>Use of criteria and indicators as a framework to support sustainable practices</i>  | 37   |

|     |   |    |
|-----|---|----|
| 6.0 | <b>Roadmap for the further promotion and use of sustainability indicators in policy and practice</b>            | 38 |
|     | (a) <i>Use of criteria and indicators in promoting dialogue and in policy</i>                                   | 38 |
|     | (b) <i>Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability</i> | 38 |
|     | (c) <i>Use of criteria and indicators as a framework to support sustainable practices</i>                       | 39 |
| 7.0 | <b>Conclusions and recommendations</b>  | 39 |
|     | (a) <i>Use of criteria and indicators in promoting dialogue and in policy</i>                                   | 39 |
|     | (b) <i>Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability</i> | 40 |
|     | (c) <i>Use of criteria and indicators as a framework to support sustainable practices</i>                       | 40 |

## List of Tables

|         |  | Page |
|---------|--|------|
| Table 1 | Number of Respondents by Stakeholder Groups and Countries and Region   | 22   |
| Table 2 | Summary of Results on Approaches used to Address or Measure Sustainability Issues and Current Use Criteria and Indicators for Sustainable Forest Management from Respondents at the Regional Level | 23   |
| Table 3 | Summary of Results on Approaches used to Address or Measure Sustainability Issues and Current Use Criteria and Indicators for Sustainable Forest Management from Respondents at the Country Level  | 23   |
| Table 4 | Summary of Results on the Use of Sustainability Indicator Sets from Respondents at the Regional Level  | 24   |
| Table 5 | Summary of Results on the Use of Sustainability Indicator Sets from Respondents at the Country Level   | 25   |

## List of Annexes

|          |   | Page |
|----------|---|------|
| Annex 1  | FAO Questionnaire   | 43   |
| Annex 2  | Number of Questionnaires Sent and Responded   | 46   |
| Annex 3  | Format for Paper Preparation: <i>“Use of forest criteria and indicators as a framework for forest management and certification, and policy and strategy development in the forestry sector in Viet Nam”</i> | 48   |
| Annex 4  | Format for Paper Preparation: <i>“Use of forest criteria and indicators as a framework for guiding implementation of forest policies, plans and programs in the Philippines”</i>                            | 50   |
| Annex 5  | Format for Paper Preparation: <i>“Use of forest criteria and indicators as a framework for project design and monitoring, including land use planning and agroforestry”</i>                                 | 52   |
| Annex 6  | Format for Paper Preparation: <i>“Use of criteria and indicators as a framework for structuring data collection, assessment and reporting on sustainable forest management in the ASEAN Member States”</i>  | 54   |
| Annex 7  | Format for Paper Preparation: <i>“Use of criteria and indicators for monitoring, assessing and reporting of progress towards sustainable forest management in Peninsular Malaysia”</i>                      | 56   |
| Annex 8  | Format for Paper Preparation: <i>Use of forest criteria and indicators for forest management certification under the Malaysian Timber Certification Scheme (MTCS)”</i>                                      | 58   |
| Annex 9  | Use of forest criteria and indicators as a framework for forest management and certification, and policy and strategy development in the forestry sector in Viet Nam  | 60   |
| Annex 10 | Use of criteria and indicators as a framework for structuring data collection, assessment and reporting on sustainable forest management in the ASEAN Member States   | 68   |
| Annex 11 | Use of criteria and indicators for monitoring, assessing and reporting of progress towards sustainable forest management in Peninsular Malaysia   | 74   |
| Annex 12 | Use of forest criteria and indicators as a framework for guiding implementation of forest policies, plans and programs in the Philippines   | 81   |

|          |  |    |
|----------|--|----|
| Annex 13 | Use of forest criteria and indicators for forest management certification under the Malaysian Timber Certification Scheme (MTCS)     | 86 |
| Annex 14 | Use of forest criteria and indicators as a framework for project design and monitoring, including land use planning and agroforestry | 93 |

## Acronyms and Abbreviations

|                          |   |
|--------------------------|---|
| AMS                      | ASEAN Member States   |
| ASEAN                    | Association of South East Asian Nations   |
| ASEAN C&I                | ASEAN Criteria and Indicators for Sustainable Management of Tropical Forests                |
| CDRI                     | Cambodia Development Resource Institute   |
| CIFOR                    | Center for International Forestry Research  |
| ESSC                     | Environmental Science for Social Change, Philippines  |
| FLEGT                    | Forest Law Enforcement, Governance and Trade  |
| FMB                      | Forest Management Bureau, Philippines   |
| FMU                      | Forest Management Unit  |
| FRIM                     | Forest Research Institute Malaysia  |
| FSC P&C                  | Forest Stewardship Council Principles and Criteria  |
| ha                       | Hectare   |
| ICRAF Viet Nam           | The International Centre for Research in Agroforestry (World Agroforestry Center), Viet Nam |
| IDEAL                    | Integrated Development for Eco-friendly and Appropriate Lifestyle, Malaysia                 |
| ITTO                     | International Tropical Timber Organization  |
| MAR Format               | Monitoring, Assessment and Reporting Format for Sustainable Forest Management in ASEAN      |
| MC&I (Forest Plantation) | Malaysian Criteria and Indicators for Forest Management Certification (Forest Plantation)   |
| MC&I (Natural Forest)    | Malaysian Criteria and Indicators for Forest Management Certification (Natural Forest)      |
| MFCC                     | Myanmar Forest Certification Committee  |
| MTC                      | Malaysian Timber Council  |
| MTCC                     | Malaysian Timber Certification Council  |

|              |  |
|--------------|--|
| MTCS         | Malaysian Timber Certification Scheme                                |
| NGOs         | Non-governmental Organizations                                       |
| PEFC         | Programme for the Endorsement of Forest Certification schemes        |
| RECOFTC      | Regional Community Forestry Training Center for Asia and the Pacific |
| STA          | Sarawak Timber Association   |
| UNFF         | United Nations Forum on Forests                                      |
| VPA          | Voluntary Partnership Agreement                                      |
| WWF-Malaysia | World Wide Fund for Nature, Malaysia                                 |
| %            | Percent  |

## Executive Summary

1. Criteria and indicators have emerged as a powerful tool in promoting sustainable forest management. Following the United Nations Conference on Environmental and Development (UNCED) held in Rio de Janeiro, Brazil in June 1992, several regional criteria and indicators processes have developed criteria and indicators for sustainable forest management, including joined efforts towards strengthening monitoring and reporting on their use.
2. Nevertheless, there is still substantive scope to further strengthen the use of forest criteria and indicators and to enhance their application in policy and practice at regional, national and forest management unit level. As such, the project on “Strengthening Criteria and Indicators for Sustainable Forest Management and their use in forest policy and practice” (2014-2015), coordinated by the Food and Agriculture Organization of the United Nations (FAO) and funded by the German Federal Ministry of Food and Agriculture, aims to fill in this gap.
3. The objective of the study in Southeast Asia is to assess the use criteria and indicators for sustainable forest management as a tool in promoting dialogue and in policy; in monitoring, assessment and reporting on forests and sustainability; and as a framework to support sustainable practices at the regional, national and local levels. It included experiences and lessons learned made by governmental and non-governmental organizations (NGOs); explore the need and challenges faced in using them, especially in policy and practices; and elaborate their potential for enhancing their future uses.
4. Although only 33 individuals representing the various stakeholder groups in Southeast Asia responded to the questionnaire survey or 38.8%, fewer than expected, they do represent a broad spectrum of the various stakeholders in the region as Brunei Darussalam only produces timber and timber products for domestic consumption, while Singapore does not have an active forestry sector.
5. Data from the completed questionnaires were analyzed and further information was sought from some of the respondents, including clarification on some of the issues raised through e-mails and personal contacts. In this regard, all the five respondents at the regional level and 27 respondents or 96.4% of the respondents at the country level are fully aware of a set of criteria and indicators for sustainable forest management that was developed in their countries and that their organizations do address or measure sustainability issues.
6. A total of six case studies involving the use of forest criteria and indicators as a framework for (i) forest management and certification, and policy and strategy development in the forestry sector in Viet Nam; (ii) structuring data collection, assessment and reporting on sustainable forest management in the ASEAN Member States; (iii) monitoring, assessing and reporting of progress towards sustainable forest management in Peninsular Malaysia; (iv) guiding implementation of forest policies, plans and programs in the Philippines; (v) forest management certification under the Malaysian Timber Certification Scheme (MTCS); and (vi) project design and monitoring, including land use planning and agroforestry in the Philippines; were selected and prepared.

## **Approaches and current use of sustainability indicators in policy and practice**

### *(a) Use of criteria and indicators in promoting dialogue and in policy*

7. The ASEAN Secretariat uses the ASEAN Criteria and Indicators for Sustainable Management of Tropical Forests (ASEAN C&I) to facilitate policy dialogue among its ten Member States on issues related to the management, protection and development of forest resources; as well as to guide formulation and implementation of regional co-operation activities to enhance the international competitiveness of ASEAN's forestry products that meet international requirements and which is consistent with their sustainable management and conservation.

8. The ASEAN Center for Biodiversity does occasionally use sustainability indicators for undertaking policy dialogue and in developing strategy with the ASEAN Member States (AMS), although the Center does not use criteria and indicators for sustainable forest management *per se*.

9. In Malaysia, criteria and indicators for sustainable forest management have been used to facilitate policy dialogues with the timber industries on their role and responsibilities in managing and conserving the forest resources, as well as in providing guidance in formulating forest development programs under each of the five-year Malaysia Plans. In the case of Viet Nam, forest sustainability criteria and indicators have been used to a limited extent as a framework for developing policies and strategies, including action programs.

10. The Sarawak Timber Association (STA) and the Malaysian Timber Council (MTC), both in Malaysia, as well as the Philippine Wood Producers Association and the Industries Development Corporation of the Philippines quite often use forest sustainability criteria and indicators for policy dialogue in their efforts to further enhance responsible forest management practices that meet international trade requirements.

11. The NGO Forum of Cambodia and the Cambodia Development Resource Institute (CDRI) use sustainability indicators in their work on policy through dialogue, advocacy and capacity building activities related to climate change, community forestry and those related to environment and forestry.

### *(b) Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability*

12. In 2007, the ASEAN Secretariat had developed the Monitoring, Assessment and Reporting Format for Sustainable Forest Management in ASEAN (MAR Format) to structure the systematic collection of data and/or information from each of its ten Member States pertaining to the achievement of sustainable management of ASEAN's forests. Towards this end, computer programs were developed to enable the MAR Format to operate both online and offline, and training courses were conducted at the ASEAN level on their application.

13. Forestry departments and agencies in the region use forest sustainability criteria and indicators primarily for monitoring, assessing and reporting on progress towards the attainment of sustainable forest management through evaluating the application of

sustainable forest management practices at the local level and for forest management certification.

14. In addressing forest sustainability, the Forestry Administration of Cambodia uses the Cambodia Criteria and Indicators for Sustainable Forest and the Cambodia Monitoring, Assessment and Reporting Format for Sustainable Forest Management, while implementation of criteria and indicators for sustainable forest management in Indonesia is mandatory.

15. The Department of Forestry (DOF), Lao PDR addresses forest sustainability through the DOF Standards for Assessing Sub-Forest Management Area (FMA) and the FSC Standards for Assessing Forest Management in Lao PDR for forest certification purposes.

16. The Forestry Departments in Malaysia uses the Malaysian Criteria and Indicators for Forest Management Certification (Natural Forest) [MC&I (Natural Forest)] and the Malaysian Criteria and Indicators for Forest Management Certification (Forest Plantation) [MC&I (Forest Plantation)] for monitoring, assessing and reporting on sustainable forest management practices of the natural and planted forests respectively.

17. In Myanmar, the Forest Department and the Myanma Timber Enterprise (MTE) use the Criteria and Indicators for Sustainable Forest Management of Forest Resources in Myanmar to assess and evaluate forest sustainability at both the national and FMU levels; while the Philippine Criteria and Indicators for Sustainable Forest Management together with the Manual on Auditing Sustainable Forest Management are used in the Philippines.

18. Thailand has adopted the “Revised ITTO Criteria and Indicators for the Sustainable Management of Tropical Forests, including Reporting Format” as the guideline for assessing and reporting on natural forests sustainability; while the Viet Nam Administration of Forestry is monitoring and assessing forest sustainability through the application of the Forest Stewardship Council Principles and Criteria (FSC P&C) for Forest Stewardship.

(c) *Use of criteria and indicators as a framework to support sustainable practices*

19. The ASEAN Center for Biodiversity uses biodiversity indicators for sustainable development for monitoring the achievement of the Aichi Biodiversity Targets 2011-2020 at the national level, but not at the regional level.

20. The Sabah Forestry Department in Malaysia uses criteria and indicators for sustainable forest management at the forest management unit (FMU) level to monitor compliance to the conditions of the Sustainable Forest Management License Agreement (SFMLA) and for developing the Sabah Timber Legality Assurance System (TLAS).

21. The Forest Management Bureau (FMB) of the Philippines uses sustainability indicators to assess the performance of tenure holders before they could commence any field operations, as well as the performances of timber companies engaged in industrial forest management in forest lands, and community-based forest management projects.

22. The STA in Malaysia uses criteria and indicators for sustainable forest management in designing in-training courses in association with the Lincoln University of New Zealand, while the Malaysian Timber Certification Council (MTCC) uses criteria and indicators for sustainable forest management to develop the MC&I (Natural Forest) and MC&I (Forest Plantation) under the Malaysian Timber Certification Scheme (MTCS) which has been endorsed by the Programme for the Endorsement of Forest Certification schemes (PEFC) since 1 May 2009.

23. In Myanmar, the Myanmar Forest Certification Committee (MFCC) uses forest sustainability criteria and indicators to develop the Myanmar Criteria and Indicators for Forest Management Certification, 2007. Steps are being taken to develop criteria and indicators for certification of forest plantation in Myanmar.

24. The Center for International Forestry Research (CIFOR) often uses criteria and indicators for sustainable forest management as a framework at the landscape level for sustainability assessments, while ICRAF Viet Nam uses a landscape approach to address them.

25. The FSC Asia Pacific Regional Office uses the FSC P&C Version 4.0 (FSC-STD-01-001) for assessing responsible forest management by its accredited certification organizations in conjunction with national and international laws and regulations; while the Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC) is using its own principles, criteria and indicators for sustainable community forestry.

26. In Philippines, the Environmental Science for Social Change (ESSC) uses various sustainability indicators for forest cover updating, development of design and monitoring framework for its projects, and in the promotion of community mapping in participative resource management.

27. WWF-Malaysia uses forest sustainability criteria and indicators through its work related to forest management and certification, while Proforest uses them in standards development for private companies' sustainability programs and in supply chain mapping. In the case of TRAFFIC, it uses forest sustainability criteria and indicators through its work in legality frameworks for forestry and timber trade.

### **Experiences, lessons learned and associated challenges in the use of sustainability indicators in policy and practice**

#### *(a) Use of criteria and indicators in promoting dialogue and in policy*

28. It is envisaged that the information generated through the use of the MAR Format will enable the ASEAN Secretariat to produce timely reports on the status of forest cover and progress towards achieving forests sustainability for the region to international organizations and fora, such as the United Nations Forum on Forests (UNFF), and to hold policy dialogue with AMS in developing strategies and action programs for sustainable forest management through its Strategic Plan of Action of ASEAN Co-operation in Forestry, as well as to facilitate cross-learning on the use of criteria and indicators for sustainable forest management.

29. Nevertheless, in implementing the MAR Format, especially its online component, the ASEAN Secretariat has experienced, among others, the different interpretation of

some of the terms used in the MAR Format by individual AMS, lack of a dedicated or specialized body to collect the structured information required by the MAR Format, and inadequate identification of which indicators that were not relevant at the national and FMU levels in each AMS.

30. In Peninsular Malaysia, the information generated through the use of criteria and indicators for sustainable forest management has enable the State Forestry Departments to better communicate the status of sustainable forest management more effectively to the public, and to periodically review their policies and strategies for sustainable forest management.

31. However, there is a need to train and re-train the staff involved in using criteria and indicators for sustainable forest management through structured training modules in view of their high mobility and turn-over, especially forest workers from the logging industry as they are paid on a piece-meal basis.

(b) *Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability*

32. In using the MAR Format to structure data collection, assessment and reporting on sustainable forest management practices in AMS, it is pertinent to ensure that the activities are aligned with the needs and priority of each AMS, and that reporting cycles of Member States and ASEAN are streamlined and synchronized.

33. The use of criteria and indicators in Peninsular Malaysia for monitoring, assessing and reporting of progress towards sustainable forest management has strengthened sustainable forest management practices at the local level, and provided a more balanced approach to resource use, between economic, social and environmental needs.

34. However, the cost required to fully realize the use of criteria and indicators for tracking sustainable forest management at both the national and FMU levels in Peninsular Malaysia is substantial, and hence, it is imperative that the revenue generated from the production of forest goods and ecosystem services is adequate to provide the much needed financial resources to enable the use of criteria and indicators for monitoring, assessing and reporting on sustainable forest management.

(c) *Use of criteria and indicators as a framework to support sustainable practices*

35. The development of the MTCS using criteria and indicators for sustainable forest management that involved all relevant stakeholders required financial support to be provided to the smaller NGOs to enable their participation so as to ensure that the process is transparent and inclusive.

36. Furthermore, the cost to promote the acceptance of the MTCS by the environmentally sensitive markets and in government procurement policies, including having the scheme endorsed by PEFC has been high. Nevertheless, the use of forest sustainability criteria and indicators in the MTCS has assisted Malaysia to ensure continued market access and maintain its market share in the trade in tropical timber products.

37. In the Philippines, the use of sustainability criteria and indicators by ESSC for project design and monitoring at the sub-national level has assisted local governments to monitor whether their development programs are going to the areas that need them. It has also enabled local governments and line agencies to program forest and natural resource management concerns in their provincial poverty alleviation strategies.

38. However, current forest sustainability indicators used and monitored often reflect forest values from the perspective of large-scale interests such as government forestry ministries and departments, as well as corporations, and hence, they do not have much relevance for other sectors implementing projects that impact forests.

39. In addition, as current social, cultural and governance indicators that could provide greater basis for applicability in and links to other sectors, especially those focused on human development, are sparse, such indicators should be further developed and/or improved through using or linking them with indicators used in other sectors.

40. In Viet Nam, the inclusion of criteria and indicators for sustainable forest management into forest management plan has given significant support to improve its forest management practices, especially at the local level. However, it is imperative for the use of criteria and indicators for sustainable forest management to demonstrate and support the market demand for timber and timber products sourced from legal and sustainable managed forests.

#### **Future use and potential of using sustainability indicators in policy and practice**

##### *(a) Use of criteria and indicators in promoting dialogue and in policy*

41. Criteria and indicators for sustainable forest management could further assist in developing policies and strategies for sustainable forest management; provide guidance in formulating forest development programs for enhancing the management, development and conservation of the forest resources; act as ingredients for improvement of forest management plans; and in focusing research efforts where knowledge is still lacking and deficient, as well as in identifying those areas which are in special need of international assistance and co-operation.

42. They could also provide an additional platform to further facilitate policy dialogues with the timber industries on their role and responsibilities in managing and conserving forest resources, and guide forest owners to plan the steps required by them to have their forests sustainably managed, including the necessary budget.

##### *(b) Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability*

43. Criteria and indicators used in monitoring, assessing and reporting of forest sustainability need to be periodically reviewed and refined so as to reflect new knowledge about the functioning of forest ecosystem and in meeting changing societal needs for forest goods and ecosystem services.

44. In the context of mitigating climate change and enhancing forest goods and services, there is potential to further use quantitative indicators to assess and monitor the effect of forest management on forest biological diversity, soil, water, and carbon storage, including measures on soil productivity within the forest area.

45. Outcomes from the application of forest sustainability criteria and indicators, including their impacts at the landscape level need to be conducted and widely disseminated to the public as this will further strengthen political support for their use, especially in providing the much need financial resources.

(c) *Use of criteria and indicators as a framework to support sustainable practices*

46. While criteria for sustainable management of forests are generally comparable at the global, regional and national levels, it is pertinent for them to be more contextual and specific for country level application. At the project level, greater effort is needed for the current sustainability indicator sets to become relevant and applicable as global, regional and national indicators that are too broad tend to create problems since contexts are so variable and multiple responses are needed.

47. There is also a need to further explore and use criteria and indicators for sustainable forest management to address landscape level forest values in an integrated way so as to maximize land uses and the users of the land, including forest land.

48. Regional or sub-regional criteria and indicators for forest management should be further developed and promoted as frameworks to develop forest certification schemes as they are more appropriate in reflecting the conditions of countries in a given region or sub-region.

49. The experiences and confidence gained in using forest sustainability criteria and indicators will further enhance the capability of a number of AMS to engage in the EU-Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreement (VPA) process. Currently, Indonesia has ratified the VPA with the EU, while Malaysia is finalizing the VPA with the EU, and Lao PDR, Thailand and Viet Nam are continuing their negotiations with the EU. The other AMS, namely, Cambodia, the Philippines and Myanmar have indicated their interest and are conducting VPA dialogues with the EU.

**Roadmap for the further promotion and use of sustainability indicators in policy and practice**

(a) *Use of criteria and indicators in promoting dialogue and in policy*

50. There is a strong need to focus on a few key forest indicators and have short, clear, and client-oriented evidence based information on the benefits in using forest sustainability indicators in enhancing policy dialogue disseminated to the public, especially to policy and decision makers.

51. There is also a need to effectively demonstrate the added value and/or benefits of using forest sustainability indicators as tools to enhance communication, capacity building activities and in advocacy work related to climate change and FLEGT.

(b) *Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability*

52. To further promote the use of sustainability indicators in structuring systematic data collection at the ASEAN level, actions should be taken to facilitate cross-learning and exchange of experiences between AMS in the application of forest sustainability criteria and indicators in capturing structured information to assess, monitor and report on sustainable forest management.

53. The ASEAN Secretariat should assist AMS in developing national databases or align existing national databases to capture the structured information as required by the MAR Format, as well as to source additional support from international organizations and financial institutions to empower AMS to further enhance data collection and analysis using criteria and indicators for sustainable forest management.

54. A scorecard that offers quantitative ratings of the use of forest sustainability criteria and indicators as a framework for assessing, monitoring and reporting on progress towards the achievement of sustainable forest management at both the national and FMU levels should be developed.

55. Computer-based tools should also be developed to simplify the task of using forest sustainability criteria and indicators for monitoring, analysis and in generating periodic synthesis reports on sustainable forest management.

(c) *Use of criteria and indicators as a framework to support sustainable practices*

56. There is an urgent need to review and simplify the current use of criteria and indicators for sustainable forest management as a framework for developing forest certification scheme for the production of timber and timber products.

57. There is also an urgent need to interface sustainable forest management criteria and indicators with other human development-related indicator sets as this could help to promote support for the forest sector among local governments and other sectors.

58. The use of simplified and user-adapted criteria and indicators as a framework for dialogue and communication on forest and sustainability in particular with local communities, producer organizations, local investors and operators should be further promoted.

59. Forest sustainability indicators should be more contextual and specific for country level application, including developing and demonstrating the added value of practical applications of criteria and indicators at local levels.

60. Criteria and indicators for sustainable forest management should be further promoted and used to guide and enhance corporate social responsibility (CSR) of timber companies to use legally sourced timber and practise good forest governance.

## Conclusions and recommendations

### (a) *Use of criteria and indicators in promoting dialogue and in policy*

61. The information generated through the MAR Format is expected to further strengthen the ASEAN Secretariat to hold policy dialogue with AMS in developing strategies and action programs through its Strategic Plan of Action of ASEAN Co-operation in Forestry, and with its dialogue and development partners.

62. The forestry departments and agencies in the region often use criteria and indicators for sustainable forest management to guide formulation and implementation of policies, plans and programs, and have assisted them to review their policies and strategies for sustainable forest management, and in identifying research efforts and areas which are in special need of international assistance and co-operation.

63. In addition, they also use forest sustainability indicators as tools to better communicate the status of sustainable forest management to the public and conduct dialogues and consultations with the timber industry, and social and environmental NGOs, on the need for a more balanced approach to forest resource use.

64. Nevertheless, there is a need to enhance further capacity building activities and engagement of stakeholders on the use of criteria and indicators for sustainable forest management, as well as in raising the awareness of relevant stakeholders through consistent information dissemination.

### (b) *Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability*

65. At the regional level, the ASEAN Secretariat has used criteria and indicators for sustainable forest management as a framework to structure the systematic collection of data and/or information from each of its ten Member States pertaining to sustainable management of the ASEAN's forests through the MAR Format.

66. Countries in the region have developed their own criteria and indicators for sustainable management and have used them for monitoring and evaluating the application of sustainable forest management practices, as well as in developing their forest management certification schemes.

67. In this context, outreach programs to increase public awareness, especially on the importance of tracking progress towards the achievement of sustainable forest management forest and the role of forests in sustaining a viable environment for humankind through the use of sustainability indicators should be intensified

### (c) *Use of criteria and indicators as a framework to support sustainable practices*

68. Forestry departments and agencies in the region use criteria and indicators for sustainable forest management to identify additional elements of sustainable forest management practices to improve their forest management plans and practices at the local level.

69. The MTCC and MFCC use criteria and indicators for sustainable forest management to develop their respective forest management certification schemes, while timber industries and trade bodies in the region safeguard the interest of their members in the application of forest sustainability criteria and indicators used in such schemes.

70. Research institutions in the region such as CIFOR often uses forest sustainability criteria and indicators as a framework to guide data collection and sustainability assessments at multi-level from site, landscape to global, including for climate change adaptation.

71. WW-Malaysia uses forest sustainability criteria and indicators through its work related to forest management and certification, while Proforest uses them in standards development for private companies' sustainability programs, including those required for chain of custody certification.

72. In the case of TRAFFIC, it uses them through its work in legality frameworks for forestry and timber trade, while ESSC in the Philippines uses them to develop the design and monitoring framework for its projects, including those with land use planning and agroforestry components.

73. Social NGOs in the region are often involved in the elaboration and application forest sustainability criteria and indicators so as to ensure that the rights of indigenous peoples and local communities are respected and their welfare and livelihood safeguarded.

74. Nevertheless, there is a need to ensure the relevancy of criteria and indicators for sustainable forest management through periodic review and refinement so as to reflect new knowledge about the functioning of forest ecosystem and in meeting changing societal needs for forest goods and ecosystem services.

75. More efforts should also be taken to develop more efficient quantitative indicators to assess and monitor the effect of forest management on forest biological diversity, soil, water, and carbon storage, including measures on soil productivity within the forest area in the context of mitigating climate change and enhancing forest ecosystem resilience.

76. A scorecard that offers quantitative ratings on the use of criteria and indicators for sustainable forest management should be developed, while computer-based tools should also be developed to simplify the task of monitoring, analysis and in generating periodic synthesis reports on sustainable forest management.

77. The use of regional or sub-regional criteria and indicators for forest management as frameworks to develop forest certification schemes should be encouraged and promoted as they are more appropriate in reflecting the conditions of countries in a given region or sub-region.

78. The use of criteria and indicators for sustainable forest management to address landscape level forest values in an integrated way so as to maximize land uses and the users of the land should be explored.

79. Currently as social, cultural and governance indicators are sparse, efforts should be taken to further develop or improve them through linking them with indicators used in other sectors, especially those focused on human development.

80. Cross-learning and exchange of experiences between countries in the region on the application of forest sustainability criteria and indicators with a view of selecting indicators that are measurable and for which credible baseline data exist or could be produced with a reasonable investment on data generation should be facilitated.

## **Introduction and background**

1.1 Criteria and indicators have emerged as a powerful tool in promoting sustainable forest management. Following the United Nations Conference on Environmental and Development (UNCED) held in Rio de Janeiro, Brazil in June 1992, several regional criteria and indicators processes have developed criteria and indicators for sustainable forest management, including joined efforts towards strengthening monitoring and reporting on their use. For example, the International Tropical Timber Organization (ITTO) criteria and indicators for sustainable management of tropical forests which have been widely adapted and used by countries in Southeast Asia. Nevertheless, there is still substantive scope to further strengthen the use of forest criteria and indicators and to enhance their application in policy and practice at regional, national and forest management unit level.

1.2 In this regard, the project on “Strengthening Criteria and Indicators for Sustainable Forest Management and their use in forest policy and practice” (2014-2015), coordinated by the Food and Agriculture Organization of the United Nations (FAO) and funded by the German Federal Ministry of Food and Agriculture, aims to fill in this gap. It undertakes national, regional and global consultations (in Africa, Asia and Latin America) involving governmental and non-governmental bodies and other stakeholders, reviewing criteria and indicators uses and discussing needs of stakeholders at different levels (local, national, regional and global) and opportunities to strengthen their use, by learning from best practices and lessons learned. Furthermore, the project aims to contribute to strengthening and further harmonizing current criteria and indicators sets, particularly on socio-economic and governance indicators in the context of the Sustainable Development Goals (SDGs), United Nations Forum on Forests (UNFF), FAO Global Forest Resources Assessment and reporting to other forest and forest-related policy processes at global and regional levels.

1.3 The objective of the study in Southeast Asia is to assess the use criteria and indicators for sustainable forest management as a tool in promoting dialogue and in policy; in monitoring, assessment and reporting on forests and sustainability; and as a framework to support sustainable practices at the regional, national and local levels. It included experiences and lessons learned made by governmental and non-governmental organizations (NGOs); explore the need and challenges faced in using them, especially in policy and practices; and elaborate their potential for enhancing their future uses. It is envisaged that the use of criteria and indicators will further strengthen the implementation, monitoring and reporting on progress towards the achievement of sustainable forest management in the countries in Southeast Asia and the region as a whole.

1.4 The countries in Southeast Asia that are covered in this study are Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Viet Nam. All the ten countries are member states of the Association of South East Asian Nations (ASEAN) that was established in 1967.

1.5 The stakeholder groups involved in the study included organizations and agencies from governmental organizations, especially forestry departments and forestry administration, inter-governmental bodies dealing with forests such as the ASEAN Secretariat; timber industries and trade at the national or sub-national levels; research

institutions; certification bodies; development institutions; and social and environmental NGOs, including indigenous people groups.

## 2.0 Material, methods and analysis

2.1 A questionnaire from FAO addressing the existence and current use of forest sustainability criteria and indicators, and their potential future uses as in [Annex 1](#) was sent to 85 individuals in the ten member states in ASEAN based on internet search and personal contacts. Of this total, 33 individuals representing the various stakeholder groups responded, but there was no response from the stakeholders from Brunei Darussalam and Singapore as in [Annex 2](#).

2.2 Although the number of responses to the questionnaire was only 38.8%, fewer than expected, they do represent a broad spectrum of the various stakeholders in the ASEAN region taking cognizance that Brunei Darussalam only produces timber and timber products for domestic consumption, while Singapore does not have an active forestry sector as it has only an estimated 2,339 ha of forest land or 3.3% of its total land area of 71,000 ha.

2.3 As reflected in [Table 1](#), the 33 responses were received from the following stakeholder groups:

- (i) 2 from inter-governmental organizations - the ASEAN Secretariat and the ASEAN Center for Biodiversity;
- (ii) 12 from forestry departments of Lao PDR, Malaysia and Thailand, forestry administrations of Cambodia and Viet Nam, forestry agencies in Indonesia, and the Forest Management Bureau of the Philippines;
- (iii) 4 from timber industries and trade – the Malaysian Timber Council (MTC) and the Sarawak Timber Association (STA), both in Malaysia, and the Philippines Wood Producers Association and the Industries Development Corporation in the Philippines;
- (iv) 2 research institutions - the Forest Research Institute Malaysia (FRIM) and the Center for International Forestry Research (CIFOR);
- (v) 3 timber certification bodies – the FSC Asia Pacific Regional Office, the Malaysian Timber Certification Council (MTCC) and the Myanmar Forest Certification Committee (MFCC);
- (vi) 3 development organizations - the Regional Community Forestry Training Center for Asia and the Pacific (RECOFTC), the Cambodia Development Resource Institute (CDRI) and the World Agroforestry Center on Viet Nam (ICRAF Viet Nam);
- (vii) 2 social NGOs - the Integrated Development for Eco-friendly and Appropriate Lifestyle (IDEAL) and RURUM Kelabit, Sarawak, an association of Kelabits, both in Malaysia; and

- (viii) 5 environmental NGOs - the Environmental Science for Social Change (ESSC) in the Philippines; the NGO Forum of Cambodia; Proforest, South East Asia Regional Office; World Wide Fund for Nature, Malaysia (WWF-Malaysia); and TRAFFIC.

Table1: Number of Respondents by Stakeholder Groups and Countries and Region

| Stakeholder Groups              | Region | Countries |           |         |          |         |             |          |          | Total |
|---------------------------------|--------|-----------|-----------|---------|----------|---------|-------------|----------|----------|-------|
|                                 | ASEAN  | Cambodia  | Indonesia | Lao PDR | Malaysia | Myanmar | Philippines | Thailand | Viet Nam |       |
| Inter-governmental organization | 2      | -         | -         | -       | -        | -       | -           | -        | -        | 2     |
| Forestry organization           | -      | 1         | 3         | 1       | 3        | 1       | 1           | 1        | 1        | 12    |
| Timber Industries and Trade     | -      | -         | -         | -       | 2        | -       | 2           | -        | -        | 4     |
| Research institution            | 1      | -         | -         | -       | 1        | -       | -           | -        | -        | 2     |
| Certification body              | 1      | -         | -         | -       | 1        | 1       | -           | -        | -        | 3     |
| Development institution         | 1      | 1         | -         | -       | -        | -       | -           | -        | 1        | 3     |
| Social NGO                      | -      | -         | -         | -       | 2        | -       | -           | -        | -        | 2     |
| Environmental NGO               | -      | 1         | -         | -       | 3        | -       | 1           | -        | -        | 5     |
| Total                           | 5      | 3         | 3         | 1       | 12       | 2       | 4           | 1        | 2        | 33    |

2.4 Data from the completed questionnaires were analyzed and further information was sought from some of the respondents, including clarification on some of the issues raised through e-mails and personal contacts. In this regard, all the five respondents or 100% at the regional level (Southeast Asia) are fully aware of a set of criteria and indicators for sustainable forest management that was developed in their countries and that their organizations do address or measure sustainability issues. But, currently only three of the respondents' organizations or 60% are currently using criteria and indicators for sustainable forest management, although all the five respondents are aware of other sets of sustainability indicators that contain forest indicators in their countries. This is best reflected in a series of questions put to the respondents as in Table 2.

Table 2: Summary of Results on Approaches used to Address or Measure Sustainability Issues and Current Use of Criteria and Indicators for Sustainable Forest Management from Respondents at the Regional Level

| Questions  | Summary of Results |    |      |
|--|--------------------|----|------|
|  | Answers            |    |      |
|  | Yes                | No | %Yes |
| 1. Does your organization address or measure sustainability issues?  | 5                  | -  | 100  |
| 2. Are you aware of a set of criteria and indicators for sustainable forest management (C&I for SFM) that was developed in your country? | 5                  | -  | 100  |
| 3. Are you aware of other sets of sustainability indicators that contain forest indicators in your country?                              | 5                  | -  | 100  |
| 4. Is your organization currently using C&I for SFM?   | 3                  | 2  | 60   |

2.5 At the country level, of the 28 respondents a total of 27 of them or 96.4% are aware of a set of criteria and indicators for sustainable forest management that was developed in their countries and that their organizations do address or measure sustainability issues. However, only 17 respondents or 60.7% are aware of other sets of sustainability indicators that contain forest indicators in their countries, while 18 respondents' organizations or 64.3% are currently using criteria and indicators for sustainable forest management. This is best reflected in a series of questions put to the respondents as in [Table 3](#).

Table 3: Summary of Results on Approaches used to Address or Measure Sustainability Issues and Current Use of Criteria and Indicators for Sustainable Forest Management from Respondents at the Country Level

| Questions  | Summary of Results |    |      |
|--|--------------------|----|------|
|  | Answers            |    |      |
|  | Yes                | No | %Yes |
| 1. Does your organization address or measure sustainability issues?  | 27                 | 1  | 96.4 |
| 2. Are you aware of a set of criteria and indicators for sustainable forest management (C&I for SFM) that was developed in your country? | 27                 | 1  | 96.4 |
| 3. Are you aware of other sets of sustainability indicators that contain forest indicators in your country?                              | 17                 | 11 | 60.7 |
| 4. Is your organization currently using C&I for SFM?   | 18                 | 10 | 64.3 |

2.6 With regard to the use of sustainability indicator sets as a framework for policy dialogue and guiding implementation of policies, plans and programs by administrations and in structuring data collection and monitoring on forests, forest management and use or cross-sectoral sustainability assessments and reporting, including for forest management certification, two out of the five respondents at the regional level or 40% have indicated that they repeatedly or often use sustainability indicator sets as a framework for policy dialogue and planning; guiding implementation of policies, plans and programs by administrations; structuring data collection and monitoring on forests, forest management and use or sustainability aspects; and for forest management practice; as well as for developing and applying sustainability certification principles, standards and indicators; and for other activities related to forest management/conservation or management of environmental and natural resources, as in Table 4.

Table 4: Summary of Results on the Use of Sustainability Indicator Sets from Respondents at the Regional Level

| Use of sustainability indicator sets <u>as a framework for</u>   | Repeatedly/often | Sometimes/rarely | Not yet/never |
|--|------------------|------------------|---------------|
| (a) Policy dialogue and planning (policy or strategy development, multi-year plans and action programs, budgeting)   | 2                | 2                | 1             |
| (b) Guiding implementation of policies, plans and programs by administrations (guidance, rules, selection criteria, other)   | 2                | 2                | 1             |
| (c) Guiding and structuring data collection and monitoring on forests, forest management and use or sustainability aspects   | 2                | 3                | -             |
| (d) Guiding and structuring sustainability assessments and reporting of sectors (e.g. environment, energy, climate change, agriculture) or cross-sectoral sustainability assessments and reporting (e.g. rural development, natural resource management) | 1                | 3                | 1             |
| (e) Guiding forest management practice (e.g. planning, implementation, monitoring, assessing, reporting, investment decisions for natural and planted forests, agroforestry, provision of non-timber forest products and services, etc.)                 | 2                | 2                | 1             |
| (f) Developing and applying sustainability certification principles, standards and indicators  | 2                | 1                | 2             |
| (g) Any other activities related to forest management/conservation or management of environmental and natural resources where you are using /or would need to use sustainability indicators. Please specify:   | 2                | 1                | 2             |

2.7 It is also evident from Table 4 that three of respondents or 60% have rarely used sustainability indicator sets as a framework for guiding and structuring data collection and monitoring on forests, forest management and use or sustainability aspects; and for

guiding and structuring sustainability assessments and reporting of other sectors or for cross-sectoral sustainability assessments and reporting.

2.8 At the country level, slightly more than half of the 28 respondents have indicated that they repeatedly or often use sustainability indicator sets as a framework for guiding and structuring data collection and monitoring on forests, forest management and use or sustainability aspects (57.1%); guiding forest management practice (57.1%); and for developing and applying sustainability certification principles, standards and indicators (53.6%) as reflected in [Table 5](#). However, only five or 17.9% of the 28 respondents have repeatedly or often used sustainability indicator sets as a framework for guiding and structuring sustainability assessments and reporting of other sectors or for cross-sectoral sustainability assessments and reporting.

Table 5: Summary of Results on the Use of Sustainability Indicator Sets from Respondents at the Country Level

| Use of sustainability indicator sets <u>as a framework for</u>   | Repeatedly/often | Sometimes/rarely | Not yet/never |
|--|------------------|------------------|---------------|
| (a) Policy dialogue and planning (policy or strategy development, multi-year plans and action programs, budgeting)   | 13               | 11               | 4             |
| (b) Guiding implementation of policies, plans and programs by administrations (guidance, rules, selection criteria, other)   | 12               | 11               | 5             |
| (c) Guiding and structuring data collection and monitoring on forests, forest management and use or sustainability aspects   | 16               | 9                | 3             |
| (d) Guiding and structuring sustainability assessments and reporting of sectors (e.g. environment, energy, climate change, agriculture) or cross-sectoral sustainability assessments and reporting (e.g. rural development, natural resource management) | 5                | 15               | 8             |
| (e) Guiding forest management practice (e.g. planning, implementation, monitoring, assessing, reporting, investment decisions for natural and planted forests, agroforestry, provision of non-timber forest products and services, etc.)                 | 16               | 11               | 1             |
| (f) Developing and applying sustainability certification principles, standards and indicators  | 15               | 7                | 6             |
| (g) Any other activities related to forest management/conservation or management of environmental and natural resources where you are using /or would need to use sustainability indicators. Please specify:   | 9                | 7                | 12            |

2.9 Efforts were made to identify resource persons to prepare the six case studies with each focusing on a given main use of forest sustainability criteria and indicators as a framework for:

- (i) policy dialogue and planning (policy or strategy development, multi-year plans and action programs, budgeting);
- (ii) guiding implementation of policies, plans and programs by administrations (guidance, rules, selection criteria, other);
- (iii) guiding and structuring data collection and monitoring on forests, forest management and use or sustainability aspects;
- (iv) guiding and structuring sustainability assessments and reporting of sectors (e.g. environment, energy, climate change, agriculture) or cross-sectoral sustainability assessments and reporting (e.g. rural development, natural resource management);
- (v) guiding forest management practices (e.g. planning, implementation, monitoring, assessing, reporting, investment decisions for natural and planted forests, agroforestry, provision of non-timber forest products and services, etc; and
- (vi) developing and applying sustainability certification principles, standards and indicators.

2.10 Discussions were then held with the potential resource persons from the ASEAN Secretariat, Cambodia, and the Philippines through personal interviews at a side meeting of the Fifth Meeting of the ASEAN Regional Knowledge Network on Forest Law Enforcement and Governance (ARKN-FLEG) that was held in Vientiane, Lao PDR on 21 October 2014, and through e-mails with those identified in Viet Nam and ESSC in the Philippines. To facilitate the discussion a “Format for Paper Preparation” was prepared and which was adjusted for each case study.

2.11 It was decided that three resource persons be engaged as national consultants to prepare the following three case studies:

- (i) “Use of forest criteria and indicators as a framework for forest management and certification, and policy and strategy development in the forestry sector in Viet Nam” prepared according to the “Format for Paper Preparation” as in Annex 3 by Ms. Khuat Thi Lan Anh from the Viet Nam Administration of Forestry;
- (ii) “Use of forest criteria and indicators as a framework for guiding implementation of forest policies, plans and programs in the Philippines” prepared according to the “Format for Paper Preparation” as in Annex 4 by Mr. Raul Briz from the Forest Management Bureau (FMB), Philippines; and
- (iii) “Use of forest criteria and indicators as a framework for project design and monitoring, including land use planning and agroforestry” prepared according to the “Format for Paper Preparation” as in Annex 5 by Ms. Rowena Soriaga from the Environmental Science for Social Change (ESSC), Philippines.

2.12 Three other case studies were prepared by Mr. Thang Hooi Chiew, the sub-regional consultant for the project with inputs from the respective agencies through literature review and personal interviews, as follows:

- (i) “Use of criteria and indicators as a framework for structuring data collection, assessment and reporting on sustainable forest management in the ASEAN Member States” prepared according to the “Format for Paper Preparation” as in Annex 6;
- (ii) “Use of criteria and indicators for monitoring, assessing and reporting of progress towards sustainable forest management in Peninsular Malaysia” prepared according to the “Format for Paper Preparation” as in Annex 7; and
- (iii) “Use of forest criteria and indicators for forest management certification under the Malaysian Timber Certification Scheme (MTCS)” prepared according to the “Format for Paper Preparation” as in Annex 8

### 3.0 **Approaches and current use of sustainability indicators in policy and practice**

- (a) *Use of criteria and indicators in promoting dialogue and in policy*

3.1 The ASEAN Secretariat uses the ASEAN Criteria and Indicators for Sustainable Management of Tropical Forests (ASEAN C&I) that was adopted for use in 2007 to facilitate policy dialogue among its ten Member States on issues related to the management, protection and development of forest resources in the overall context of establishing an ASEAN Economic Community by 2015. The ASEAN C&I is also used to guide formulation and implementation of regional co-operation activities to enhance the international competitiveness of ASEAN’s forestry products that meet international requirements and which is consistent with their sustainable management and conservation.

3.2 In this context, the ASEAN C&I was developed based on the seven common thematic areas of the 2003 “International Conference on the Contribution of Criteria and Indicators for Sustainable Forest Management: The Way Forward (CICI-2003),” held in Guatemala City, Guatemala, while the indicators were drawn from the 2005 “Revised ITTO Criteria and Indicators for the Sustainable Management of Tropical Forests, including Reporting Format”.

3.3 It covers criteria and indicators for both natural and planted forests at the national and FMU levels, as well as those applicable at the ASEAN level. In this regard, all the 7 criteria are applicable at the national, FMU and ASEAN levels. In the case of indicators, out of the 59 indicators identified, 51 are common to all the three levels, while the remaining 8 indicators only address sustainable forest management at the national and ASEAN levels but not at the forest management unit level that include, among others, indicators dealing with policy and legal framework, and extent of total forest areas managed exclusively for soils and water protection.

3.4 The ASEAN Center for Biodiversity does occasionally use sustainability indicators for undertaking policy dialogue and in developing strategy with the ASEAN Member States (AMS), although the Center does not use criteria and indicators for sustainable forest management *per se*.

3.5 In Malaysia, criteria and indicators for sustainable forest management have been used to facilitate policy dialogues with the timber industries on their role and responsibilities in managing and conserving the forest resources, as well as to secure their commitment to effectively implement the criteria and indicators as formulated in the Malaysian Criteria and Indicators for Forest Management Certification (Natural Forest) [MC&I (Natural Forest)]. They have also provided guidance in formulating forest development programs under each of the five-year Malaysia Plans, including budgets, which will further enhance the management, development and conservation of the forest resources in Malaysia, including research and capacity building activities.

3.6 In Viet Nam, forest sustainability criteria and indicators have been used to a limited extent as a framework for developing policies and strategies, including action programs, as good forest policies and strategies play an important role in many other sectors of the economy impacted by forests. For example, forestry policies play an important role in reducing pressure on the forest resources; assist the industry to create employment opportunities and increase income; and enable the education sector to raise awareness on the importance of forests in providing the many forest ecosystem services, as well as in protecting the environment. A case study on the “Use of forest criteria and indicators as a framework for forest management and certification, and policy and strategy development in the forestry sector in Viet Nam” is as in [Annex 9](#).

3.7 The Sarawak Timber Association (STA) and the Malaysian Timber Council (MTC), both in Malaysia, as well as the Philippine Wood Producers Association and the Industries Development Corporation of the Philippines quite often use forest sustainability criteria and indicators for policy dialogue in their efforts to further enhance responsible forest management practices that meet international trade requirements.

3.8 In Cambodia, the NGO Forum of Cambodia uses sustainability indicators in its work on policy through dialogue, advocacy and capacity building activities related to climate change; reducing emissions from deforestation and forest degradation, conservation of forest carbon stocks, sustainable management of forest, and enhancement of forest carbon stocks (REDD+); and those related to environment and forestry; while the Cambodia Development Resource Institute (CDRI) uses them to conduct forest policy oriented researches on community forestry, forest cover change and the role of forests in mitigating climate change.

(b) *Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability*

3.9 Based on the ASEAN C&I, ASEAN in 2007 had developed and adopted the Monitoring, Assessment and Reporting Format for Sustainable Forest Management in ASEAN (MAR Format) to enable the ASEAN Secretariat to structure the systematic collection of data and/or information from each of its ten Member States pertaining to the achievement of sustainable management of ASEAN’s forests. Towards this end, computer programs were developed to enable the MAR Format to operate both online and offline. Training courses among AMS at the ASEAN level on the application of the

ASEAN C&I and in using the MAR Format, both online and offline for data capture in AMS were also conducted in 2009 and 2010, including undertaking field trials on the application of the MAR system in Cambodia. Currently, the developed program for the online MAR Format is housed at the ASEAN Forest Clearing House Mechanism (CHM) hosted by the ASEAN Secretariat. The case study on the “Use of criteria and indicators as a framework for structuring data collection, assessment and reporting on sustainable forest management in the ASEAN Member States” is as in [Annex 10](#).

3.10 The forestry departments and agencies in the ASEAN region use forest sustainability criteria and indicators primarily for monitoring, assessing and reporting on progress towards the attainment of sustainable forest management through evaluating the application of sustainable forest management practices at the local level, including reporting on changes and trends in forest conditions, as well as for forest management certification, especially in the timber exporting countries.

3.11 This is in view of their commitment to achieve sustainable forest management in the overall context of sustainable development. Furthermore, for Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, Thailand and Viet Nam, it is also their commitment to the *ITTO Year 2000 Objective* where members of ITTO have agreed to progress towards achieving sustainable management of tropical forests and that trade in tropical timber will be sourced from sustainably managed forests by the Year 2000.

3.12 In the case of Cambodia, the Forestry Administration uses the Cambodia Criteria and Indicators for Sustainable Forest and the Cambodia Monitoring, Assessment and Reporting Format for Sustainable Forest Management comprising 7 criteria and 59 indicators for assessing forest management practices at both the national and forest management unit (FMU) levels.

3.13 Implementation of criteria and indicators for sustainable forest management is mandatory in Indonesia since the Forestry Ministerial Regulation No. 4795/Kpts-II/2002 was issued on 3 June 2002. The scheme comprises 4 criteria and 24 indicators. Currently, it is also addressing forest sustainability through the application of the Indonesia Timber Legality Assurance System (*Sistem Verifikasi Legalitas Kayu*).

3.14 The Department of Forestry (DOF), Lao PDR addresses forest sustainability through two sets of assessment standards. The first standard is the DOF Standards for Assessing Sub-Forest Management Area (FMA) management operations through criteria and indicators developed for each of the 10 principles of good Production Forest Areas (PFA) management. The second standard is the FSC Standards for Assessing Forest Management in Lao PDR for forest certification purposes.

3.15 The Forestry Departments in Peninsular Malaysia, Sabah and Sarawak use the MC&I (Natural Forest) and the Malaysian Criteria and Indicators for Forest Management Certification (Forest Plantation) [MC&I (Forest Plantation)] for monitoring, assessing and reporting on sustainable forest management practices of the natural and planted forests respectively. These are areas undergoing or earmarked for independent third party auditing in the overall context of timber certification.

3.16 More specifically, in Peninsular Malaysia, the State Forestry Departments are currently using the MC&I (Natural Forest) which comprises 9 principles, 47 criteria, 97 indicators and 307 verifiers for assessing, monitoring and reporting on progress towards

the achievement of sustainable forest management. For planted forests they will use the MC&I (Forest Plantation) which contains 10 principles, 55 criteria, 106 indicators and 265 verifiers. These two certification schemes are also being used by the Malaysian Timber Certification Council (MTCC) to certify natural and planted forests in Malaysia under the Malaysian Timber Certification Scheme (MTCS). In fact, the MC&I (Forest Plantation) has been used to certify two forest plantations in the state of Sarawak covering a total area of 11,807 ha. A case study on the “Use of criteria and indicators for monitoring, assessing and reporting of progress towards sustainable forest management in Peninsular Malaysia” is as in Annex 11.

3.17 In Myanmar, the Forest Department and the Myanma Timber Enterprise (MTE) use the Criteria and Indicators for Sustainable Forest Management of Forest Resources in Myanmar to assess and evaluate forest sustainability at both the national and FMU levels with the latest revision in 2014.

3.18 The Philippine Criteria and Indicators for Sustainable Forest Management anchored on 7 criteria and 57 indicators are used to assess forest sustainability in the Philippines, together with the Manual on Auditing Sustainable Forest Management using the Philippine Criteria and Indicators. These criteria and indicators are currently being refined for eventual adoption for timber certification.

3.19 Since 1989, there is a logging ban on natural forests in Thailand, and as such, its production of timber and timber products is from planted forests and is net timber importing country. In this regard, it has adopted the “Revised ITTO Criteria and Indicators for the Sustainable Management of Tropical Forests, including Reporting Format” as the guideline for assessing and reporting on natural forests sustainability.

3.20 The Viet Nam Administration of Forestry is monitoring and assessing forest sustainability through the application of the Forest Stewardship Council Principles and Criteria (FSC P&C) for Forest Stewardship, while waiting for its developed Criteria and Indicators for Sustainable Forest Management of Viet Nam to be approved by the Ministry of Agriculture and Rural Development (MARD) for application. The use of forest sustainability criteria and indicators in implementing sustainable forest management and certification was clearly stipulated in the Viet Nam Forestry Development Strategy 2006-2020 as approved in the Prime Minister's Decision No.18/2007/QD-TTg dated 5 February 2007.

(c) *Use of criteria and indicators as a framework to support sustainable practices*

3.21 The ASEAN Center for Biodiversity uses biodiversity indicators for sustainable development for monitoring the achievement of the Aichi Biodiversity Targets 2011-2020 as elaborated under its five strategic goals at the national level, but not at the regional level. This is in view that AMS prefer that indicators be kept at the national level.

3.22 In Malaysia, the Sabah Forestry Department has used criteria and indicators for sustainable forest management at the FMU level to monitor compliance to the conditions of the Sustainable Forest Management License Agreement (SFMLA), the management prescriptions in forest management plans and for developing the Sabah Timber Legality Assurance System (TLAS).

3.23 In the Philippines, the Forest Management Bureau (FMB) of the Department of Environment and Natural Resources (DENR) uses the Philippine Criteria and Indicators (PC&I) for Sustainable Forest Management to assess the performance of tenure holders which are required to prepare comprehensive development and management plans before they could commence any field operations. This will enable the DENR top management to render a fair and objective decision including the imposition of appropriate sanctions and penalties for violations of forestry laws and regulations. The PC&I system has also been used in monitoring performances of timber companies engaged in industrial forest management in forest lands, and community-based forest management projects. In addition, standards that have been laid down in the PC&I for achieving sustainable forest management have been reflected in the reformulated Updated Climate Resilient Philippine Master Plan for Forestry Development in 2014, and the preceding 2003 Revised Master Plan for Forestry Development. A case study on the “Use of forest criteria and indicators as a framework for guiding implementation of forest policies, plans and programs in the Philippines” is as in [Annex 12](#).

3.24 The MTC and the STA, as well as the Philippine Wood Producers Association use forest sustainability indicators as a framework to safeguard the interest of their members in the application of their countries regulations for sustainable forest management and in meeting market demand for timber and timber products sourced from legal and sustainable sources. A company in the Philippines, the Industries Development Corporation, has its timber verified by the Rainforest Alliance under its Verified Legal Origin (VLO), and is prepared to be upgraded to Verified Legal Compliance (VLC) which will have sustainability criteria and indicators.

3.25 The STA also uses criteria and indicators for sustainable forest management for designing in-training courses for staff of the Sarawak Forest Department and the Sarawak Forestry Corporation, as well as members of companies to be trained as “Sustainable Forestry Personnel”. The training program for such persons is incorporated into a Postgraduate Diploma in Applied Science (Sustainable Tropical Forest Management/Planted Forest Management) course conducted in association with the Lincoln University of New Zealand consisting of 12 subjects offered over 3 years. Since 2006, a total of 49 students have graduated from the program. The last intake of trainees was in February 2015.

3.26 The MTCC uses criteria and indicators for sustainable forest management as a platform for the timber industry, social and environmental NGOs, academic and research institutions, and government agencies to develop the MC&I (Natural Forest) and MC&I (Forest Plantation). Both standards are part of the MTCS which has been endorsed by the Programme for the Endorsement of Forest Certification schemes (PEFC) since 1 May 2009. In this regard, for chain of custody certification (CoC), the MTCC uses the PEFC ST 2002:2013: Chain of Custody of Forest Based Products - Requirements. Verifiers were also formulated for each of the indicators to further enhance assessment, especially by certification bodies (CBs).

3.27 The MTCC’s forest management certification schemes have been used for planning the steps to be taken by forest owners who wish to have their forests certified, including budget and the administrative process required. A case study on the “Use of forest criteria and indicators for forest management certification under the Malaysian Timber Certification Scheme (MTCS)” is as in [Annex 13](#).

3.28 In Myanmar, the MFCC uses forest sustainability criteria and indicators to develop the Myanmar Criteria and Indicators for Forest Management Certification, 2007. Steps are being taken to develop criteria and indicators for certification of forest plantation in Myanmar.

3.29 In Malaysia, the forest research institution, FRIM, uses criteria and indicators for sustainable forest management in its research work involving the management and conservation of natural forests. CIFOR often uses them as a framework at the landscape level for sustainability assessments at multi-level, from site, landscape to global, including for climate change adaptation; while ICRAF Viet Nam uses a landscape approach to address them, although currently it does not use criteria and indicators for sustainable forest management.

3.30 The FSC Asia Pacific Regional Office addresses forest sustainability through the FSC P&C for Forest Stewardship, national Forest Management (FM) framework and generic FM standards framework. It currently uses the FSC P&C Version 4.0 (FSC-STD-01-001) for assessing responsible forest management by its accredited certification organizations in conjunction with national and international laws and regulations.

3.31 RECOFTC is developing and using its own principles, criteria and indicators for sustainable community forestry. Although it does not use other sustainability criteria and indicators explicitly in its work, RECOFTC does acknowledge that they are key components of its partnership work, for example, with FSC and PEFC.

3.32 In this regard, it uses its own community forestry indicators as a framework for capacity building which include research, training and strategic communication in areas of enhancing sustainable livelihoods for rural communities and in resolving forest conflicts. Nevertheless, forest sustainability criteria and indicators have assisted RECOFTC in driving discussion on the need for sustainable forest management and in providing a practical tool for communication among various stakeholders interested in the welfare of local communities.

3.33 Social NGOs in Malaysia such as the RURUM Kelabit and IDEAL do not explicitly use criteria and indicators for sustainable forest management in their work, but are involved in ensuring that their application should respect indigenous peoples and local communities' rights. This is to ensure that they are not detrimental to their welfare and livelihood, especially with regard to the provision of forest goods and ecosystem services in meeting their economic, social, cultural, and in many instances even their spiritual needs.

3.34 For the environmental NGOs in the region, ESSC in Philippines uses various sustainability indicators through its work on forest cover updating and in the promotion of community mapping in participative resource management. It is currently tracking sustainability principles, criteria and indicators used in national, regional and global processes so as to use them to develop the design and monitoring framework for its projects, including those with land use planning and agroforestry components. In this regard, forest criteria and indicators are used during project design, especially in selection of sites for research and implementation, through spatial analysis of the interrelation between socio-cultural and biophysical processes, including those in forest ecosystems.

3.35 It also uses forest-related sustainability indicators to look into forest-people interrelations such as communities in the margins of society whose livelihood and welfare are often greatly dependent on forests for various ecological services. A case study on the “Use of forest criteria and indicators as a framework for project design and monitoring, including land use planning and agroforestry” is as in [Annex 14](#).

3.36 WWF-Malaysia uses forest sustainability criteria and indicators through its work related to forest management and certification, although it does not explicitly use criteria and indicators for sustainable forest management; while Proforest uses sustainability criteria and indicators in standards development for private companies’ sustainability programs, including those required for chain of custody certification through supply chain mapping.

3.37 In the case of TRAFFIC, it uses forest sustainability criteria and indicators through its work in legality frameworks for forestry and timber trade, taking cognizance that legality elements of sustainability and the scale and scope of sustainability will depend on how comprehensive is the legal framework of a country. Its work covers a number of countries in Asia (China, Lao PDR, India, Indonesia, Malaysia and Viet Nam), Africa (Cameroon, Democratic Republic of Congo, Gabon, Republic of Congo, and Central Africa Republic) and South America (Brazil).

#### **4.0 Experiences, lessons learned and associated challenges in the use of sustainability indicators in policy and practice**

##### *(a) Use of criteria and indicators in promoting dialogue and in policy*

4.1 It is envisaged that the information generated through the use of the MAR Format will enable the ASEAN Secretariat to produce timely reports on the status of forest cover and progress towards achieving forests sustainability for the region as a whole to international organizations and fora, such as the UNFF, as well as to its dialogue and development partners. It will also enable the Secretariat to hold policy dialogue with AMS in developing strategies and action programs for sustainable forest management through its Strategic Plan of Action of ASEAN Co-operation in Forestry.

4.2 In addition, as the MAR Format is housed at the ASEAN Forest Clearing House Mechanism (CHM) which is a knowledge based management system, it will facilitate exchange of best practices of Member States and serves as a platform for regional cross-learning on the use of criteria and indicators for sustainable forest management.

4.3 Nevertheless, in implementing the MAR Format, especially its online component, the ASEAN Secretariat has experienced, among others, the different interpretation of some of the terms used in the MAR Format by individual AMS and the lack of internalization in the implementation of the MAR Format through existing forestry platforms in AMS and/or other integrated programs relevant to forests. They also included the lack of a dedicated or specialized body to collect the structured information required by the MAR Format in each AMS; as well as inadequate identification of which indicators that were not relevant at the national and FMU levels in individual AMS.

4.4 There is also a need to continue training of trainers in using the MAR Format in view that trained trainers in AMS are often promoted as part of their career development or have left their organizations; the online MAR Format has become obsolete in the light

of technological advances; the information captured by the MAR Format does not reflect and meet current needs, such as information on forest carbon sequestration and carbon stock, forest governance, ecosystem resilience and forest biological diversity, and the working conditions of forest workers.

4.5 In Peninsular Malaysia, the information generated through the use of criteria and indicators for sustainable forest management has enable the State Forestry Departments to better communicate the status of sustainable forest management more effectively to the public, and in particular to the environmental and social NGOs. It has also assisted the Departments in seeking international assistance and co-operation from the international community to further strengthen the application of criteria and indicators for sustainable forest management at the local level.

4.6 The implementation of criteria and indicators for sustainable forest management has also further enhanced the capability of the State Forestry Departments in Peninsular Malaysia to periodically review their policies and strategies for sustainable forest management, and in identifying additional elements that constitute sustainable forest management.

4.7 However, as in the case of ASEAN, there is a need to train and re-train the staff involved in using criteria and indicators for periodic assessment of sustainable forest management through structured training modules in view of their high mobility and turn-over, especially forest workers from the logging industry as they are paid on a piece-meal basis.

(b) *Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability*

4.8 In using the MAR Format to structure data collection, assessment and reporting on sustainable forest management practices in AMS, it is pertinent to ensure that the activities are aligned with the needs and priority of each AMS. Participation of relevant stakeholders at all level of society should also be enhanced, especially those representing social and environmental NGOs at the local level.

4.9 There is also a need to streamline and synchronize reporting cycles of Member States and ASEAN, taking cognizance of the reporting cycles of legally binding multilateral environmental agreements. Nevertheless, the online MAR Format has provided the ASEAN Secretariat an integrated and systematic tool to collect uniform information across its ten Member States.

4.10 In Peninsular Malaysia, the use of criteria and indicators for monitoring, assessing and reporting of progress towards sustainable forest management has strengthened sustainable forest management practices at the local level, besides providing a more balanced approach to resource use, between economic, social and environmental needs, and in safeguarding the welfare of forest workers.

4.11 It has also created greater awareness among forest managers and workers of their social responsibility in minimizing the loss of biological diversity and in protecting the environment during forest harvesting, directed research efforts to address the changes in biological diversity and water quality of logged-over production forests, as well as their long-term effects on the resilience and integrity of the forest ecosystem.

4.12 However, the cost required to fully realize the use of criteria and indicators for tracking sustainable forest management at both the national and FMU levels in Peninsular Malaysia is substantial, besides the need for endogenous capacity building and institutional strengthening, both in terms of personnel and governance.

4.13 It is imperative, therefore, that the revenue generated from the production of forest goods and ecosystem services is adequate to provide the much needed financial resources to enable the State Forestry Departments in Peninsular Malaysia to continue using criteria and indicators for monitoring, assessing and reporting on progress towards the achievement of sustainable forest management.

4.14 Furthermore, there is a need to further develop and establish effective coordination mechanisms at all levels for improved inter- and intra-agency collaboration so as to enhance the timely flow of information and/or data required by the indicators in Peninsular Malaysia. This involves horizontal coordination between actors in the different sectors, but working at the same territorial level and vertical coordination among actors operating in the same sector, but at different levels.

(c) *Use of criteria and indicators as a framework to support sustainable practices*

4.15 The development of the MTCS using criteria and indicators for sustainable forest management that involved all relevant stakeholders (timber industry, social and environmental NGOs, academic and research institutions, and government agencies) required financial support to be provided to the smaller NGOs to enable their participation so as to ensure that the process is transparent and inclusive.

4.16 It also needs to build understanding and trust between the various stakeholder groups, as well as to be able to accommodate the different views and proposals in a balanced manner through a spirit of compromise, and at the same time to ensure that the MTCS is pragmatic and auditable. This is in view of the very diverse group of organizations and individuals involved with often varying levels of understanding and expectations from the use of forest sustainability criteria and indicators in certification processes.

4.17 The cost to promote the acceptance of the forest management certification schemes developed from forest sustainability criteria and indicators by the environmentally sensitive markets and in government procurement policies, including having the scheme endorsed by PEFC has been high. For example, this included Minister-led missions to a number of EU Member States during the early years of implementation of the MTCS by MTCC.

4.18 Nevertheless, the use of forest sustainability criteria and indicators in the MTCS has assisted Malaysia to ensure continued market access and maintain its market share in the trade in tropical timber products. In some instances, it has also assisted Malaysia to gain access to new markets that demand products that are sourced legally and/or from sustainably managed forests.

4.19 In the Philippines, the use of sustainability criteria and indicators by ESSC for project design and monitoring at the sub-national level has assisted local governments

to monitor whether their development programs are going to the areas that need them. It has also enabled local governments and line agencies to program forest and natural resource management concerns in their provincial poverty alleviation strategies.

4.20 Furthermore, the use of sustainability criteria and indicators in design and monitoring of forest-related projects could aid regional analysis and objective prioritization of countries and sites for engagement; set the basis for establishing baselines, measuring accomplishment of desired outcomes and create evidence of impact; as well as enhance the flow of investments to the project area.

4.21 However, current forest sustainability indicators used and monitored often reflect forest values from the perspective of large-scale interests such as government forestry ministries and departments, as well as corporations, and hence, they do not have much relevance for other sectors implementing projects that impact forests.

4.22 In addition, as current social, cultural and governance indicators that could provide greater basis for applicability in and links to other sectors, especially those focused on human development, are sparse, such indicators should be further developed and/or improved through using or linking them with indicators used in other sectors.

4.23 In Viet Nam, the inclusion of criteria and indicators for sustainable forest management into forest management plan has given significant support to improve its forest management practices, especially at the local level. However, it is imperative for the use of criteria and indicators for sustainable forest management to demonstrate and support the market demand for timber and timber products sourced from legal and sustainable managed forests since the country is fully engaged in the negotiation for an EU-FLEGT Voluntary Partnership Agreement.

## **5.0 Future use and potential of using sustainability indicators in policy and practice**

### *(a) Use of criteria and indicators in promoting dialogue and in policy*

5.1 Criteria and indicators for sustainable forest management could further assist in developing policies and strategies for sustainable forest management; provide guidance in formulating forest development programs for enhancing the management, development and conservation of the forest resources; act as ingredients for improvement of forest management plans; and in focusing research efforts where knowledge is still lacking and deficient, as well as in identifying those areas which are in special need of international assistance and co-operation.

5.2 Forest sustainability criteria and indicators could provide an additional platform to further facilitate policy dialogues with the timber industries on their role and responsibilities in managing and conserving the forest resources, and to secure their commitment to effectively implement criteria and indicators for sustainable forest management. They could also guide forest owners to plan the steps required by them to have their forests sustainably managed, including the necessary budget.

(b) *Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability*

5.3 Criteria and indicators used in monitoring, assessing and reporting of forest sustainability need to be periodically reviewed and refined so as to reflect new knowledge about the functioning of forest ecosystem, anthropogenic intervention on the forests whether planned or unplanned, and in meeting changing societal needs for forest goods and ecosystem services. This will also ensure their relevancy and that the most appropriate forest sustainability criteria and indicators are used to assess, monitor and report on progress towards the achievement of sustainable forest management.

5.4 In the context of mitigating climate change and enhancing forest goods and services, there is potential to further use quantitative indicators to assess and monitor the effect of forest management on forest biological diversity, soil, water, and carbon storage, including measures on soil productivity within the forest area.

5.5 Outcomes from the application of forest sustainability criteria and indicators, including their impacts at the landscape level, such as on the biological resources, soil and water, and the social and economic contributions, need to be conducted and widely disseminated to the public. This will further strengthen political support for the use of criteria and indicators for sustainable forest management, especially in providing the much need financial resources.

(c) *Use of criteria and indicators as a framework to support sustainable practices*

5.6 While criteria for sustainable management of forests are generally comparable at the global, regional and national levels, it is pertinent for them to be more contextual and specific for country level application, otherwise there is less likelihood for them to be used by stakeholders locally. At the project level, greater effort is needed for the current sustainability indicator sets to become relevant and applicable as global, regional and national indicators that are too broad tend to create problems since contexts are so variable and multiple responses are needed.

5.7 There is also a need to further explore and use criteria and indicators for sustainable forest management to address landscape level forest values in an integrated way so as to maximize land uses and the users of the land, including forest land.

5.8 Forest sustainability criteria and indicators could be further used to design and be an integral part of training courses on the practice of sustainable forest management, including in postgraduate programs.

5.9 Regional or sub-regional criteria and indicators for forest management should be further developed and promoted as frameworks to develop forest certification schemes as they are more appropriate in reflecting the conditions of countries in a given region or sub-region because of their environmental and socio-cultural similarities even though they may be at different level of economic development.

5.10 The experiences and confidence gained in using forest sustainability criteria and indicators will further enhance the capability of a number of AMS to engage in the EU-Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership

Agreement (VPA) process. Currently, Indonesia has ratified the VPA with the EU which entered into force on 1 May 2014, while Malaysia is finalizing the VPA with the EU, and Lao PDR, Thailand and Viet Nam are continuing their negotiations with the EU. The other AMS, namely, Cambodia, the Philippines and Myanmar have indicated their interest and are conducting VPA dialogues with the EU.

## **6.0 Roadmap for the further promotion and use of sustainability indicators in policy and practice**

### *(a) Use of criteria and indicators in promoting dialogue and in policy*

6.1 There is a strong need to focus on a few key forest indicators and have short, clear, and client-oriented evidence based information on the benefits in using forest sustainability indicators in enhancing policy dialogue disseminated to the public, especially to policy and decision makers. This will further strengthen political support for managing the forest sustainably in the overall context of sustainable development.

6.2 There is also a need to effectively demonstrate the added value and/or benefits of using forest sustainability indicators as tools to enhance communication, capacity building activities and in advocacy work related to climate change and FLEGT.

### *(b) Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability*

6.3 To further promote the use of sustainability indicators in structuring systematic data collection at the ASEAN level, actions should be taken to facilitate cross-learning and exchange of experiences between AMS in the application of forest sustainability criteria and indicators in capturing structured information to assess, monitor and report progress towards achieving sustainable forest management at the ASEAN level.

6.4 The ASEAN Secretariat should assist AMS in developing national databases or align existing national databases to capture the structured information as required by the MAR Format. The Secretariat should also source additional support from international organizations and financial institutions, as well as development partners and donors to empower AMS to further enhance the implementation of criteria and indicators for sustainable forest management, especially in data collection and analysis.

6.5 A scorecard that offers quantitative ratings of the use of forest sustainability criteria and indicators as a framework for assessing, monitoring and reporting on progress towards the achievement of sustainable forest management at both the national and FMU levels should be developed. This will further strengthen the framework and enhance transparency and accountability in using forest sustainability criteria and indicators as a monitoring and evaluation tool.

6.6 Computer-based tools should be developed to simplify the task of using forest sustainability criteria and indicators for monitoring, analysis and in generating periodic synthesis reports on sustainable forest management.

(c) *Use of criteria and indicators as a framework to support sustainable practices*

6.7 There is an urgent need to review and simplify the current use of criteria and indicators for sustainable forest management as a framework for developing forest certification scheme for the production of timber and timber products as it is felt that they should have placed greater emphasis on this aspect vis-à-vis those related to addressing environmental and social concerns.

6.8 As social, cultural and governance indicators can provide greater basis for applicability in and links to other sectors, especially those focused on human development, there is need for indicators addressing the social and cultural aspects of forests be improved through using or linking them with indicators used in other sectors. This interfacing of sustainable forest management criteria and indicators with other human development-related indicator sets can help to promote support for the forest sector among local governments and other sectors.

6.9 Forest sustainability indicators should be further used as tools to build and strengthen local communities and indigenous peoples in safeguarding their interests with regard to the provision of forest goods and ecosystem services.

6.10 The use of simplified and user-adapted criteria and indicators as a framework for dialogue and communication on forest and sustainability in particular with local communities, producer organizations, local investors and operators should be further promoted.

6.11 Forest sustainability indicators should be more contextual and specific for country level application, including developing and demonstrating the added value of practical applications of criteria and indicators at local levels.

6.12 Criteria and indicators for sustainable forest management should be further promoted and used to guide and enhance corporate social responsibility (CSR) of timber companies to use legally sourced timber and practise good forest governance.

## **7.0 Conclusions and recommendations**

(a) *Use of criteria and indicators in promoting dialogue and in policy*

7.1 The information generated through the MAR Format is expected to further strengthen the ASEAN Secretariat to hold policy dialogue with AMS in developing strategies and action programs for sustainable forest management through its Strategic Plan of Action of ASEAN Co-operation in Forestry, as well as with its dialogue and development partners.

7.2 The forestry departments and agencies in the region often use criteria and indicators for sustainable forest management to guide formulation and implementation of policies, plans and programs that will further enhance the management, development and conservation of forest resources. They have also assisted countries in reviewing their policies and strategies for sustainable forest management and in identifying research efforts where knowledge is still lacking and deficient, and those areas which are in special need of international assistance and co-operation.

7.3 In addition, they also use forest sustainability indicators as tools to better communicate the status of sustainable forest management to the public and conduct dialogues and consultations with the timber industry, and social and environmental NGOs, on the need for a more balanced approach to forest resource use, between economic, social and environmental needs.

7.4 Nevertheless, there is a need to enhance further capacity building activities and engagement of stakeholders, especially between policy makers, NGOs and the general public on the use of criteria and indicators for sustainable forest management, as well as raising the awareness of relevant stakeholders through consistent information dissemination. Training and re-training of personnel through structured courses on the application of sustainability criteria and indicators should also be further intensified and conducted.

(b) *Use of criteria and indicators in monitoring, assessment and reporting on forests and sustainability*

7.5 At the regional level, the ASEAN Secretariat has used criteria and indicators for sustainable forest management as a framework to structure the systematic collection of data and/or information from each of its ten Member States pertaining to the progress in achieving sustainable management of the ASEAN's forests through the MAR Format. This will enable the Secretariat to produce timely reports on the status of forest management for the region as a whole to international organizations and fora.

7.6 Countries in the region have developed their own criteria and indicators for sustainable management mainly based on the ITTO set of criteria and indicators for sustainable management of natural tropical forests and/or the FSC P&C. They have used these for monitoring and evaluating the application of sustainable forest management practices, especially at the local level, including reporting on changes and trends in forest conditions, as well as in developing their forest management certification schemes.

7.7 In this context, outreach programs to increase public awareness, especially the print and electronic media, on the importance of tracking progress towards the achievement of sustainable forest management forest and the role of forests in sustaining a viable environment for humankind through the use of sustainability indicators should be intensified.

(c) *Use of criteria and indicators as a framework to support sustainable practices*

7.8 Forestry departments and agencies in the region use criteria and indicators for sustainable forest management to identify additional elements of sustainable forest management practices to improve their forest management plans and practices at the local level.

7.9 The MTCC and MFCC use criteria and indicators for sustainable forest management to develop their respective forest management certification schemes, as well as to enhance the collection of the data and information required for their schemes.

7.10 In this regard, although the timber industries and trade bodies in the region do not use forest sustainability criteria and indicators in their work, they do safeguard the interest of their members in the application of forest sustainability criteria and indicators used in timber certification schemes and encourage their members to meet market demand for timber and timber products sourced from legal and sustainable sources.

7.11 Research institutions in the region such as CIFOR often uses forest sustainability criteria and indicators as a framework to guide data collection and sustainability assessments at multi-level from site, landscape to global, including for climate change adaptation.

7.12 Environmental NGOs in the region such as WW-Malaysia uses forest sustainability criteria and indicators through its work related to forest management and certification, while Proforest uses them in standards development for private companies' sustainability programs, including those required for chain of custody certification.

7.13 In the case of TRAFFIC, it uses them through its work in legality frameworks for forestry and timber trade, while ESSC in the Philippines uses them to develop the design and monitoring framework for its projects, including those with land use planning and agroforestry components.

7.14 Although social NGOs in the region do not use forest sustainability criteria and indicators *per se*, they are involved in their elaboration and application so as to ensure that the rights of indigenous peoples and local communities are respected and their welfare and livelihood safeguarded.

7.15 Nevertheless, there is a need to ensure the relevancy of criteria and indicators for sustainable forest management through periodic review and refinement so as to reflect new knowledge about the functioning of forest ecosystem and in meeting changing societal needs for forest goods and ecosystem services. Furthermore, the capability to assess indicators will increase and scientific knowledge will improve about the nature of 'best' indicators to assess sustainability of the forest resources.

7.16 More efforts should also be taken to develop more efficient quantitative indicators to assess and monitor the effect of forest management on forest biological diversity, soil, water, and carbon storage, including measures on soil productivity within the forest area in the context of mitigating climate change and enhancing forest ecosystem resilience.

7.17 A scorecard that offers quantitative ratings on the use of criteria and indicators for sustainable forest management should be developed as this will further enhance transparency and accountability of their use as a monitoring and evaluation tool. Computer-based tools should also be developed to simplify the task of using forest sustainability criteria and indicators for monitoring, analysis and in generating periodic synthesis reports on sustainable forest management.

7.18 The use of regional or sub-regional criteria and indicators for forest management as frameworks to develop forest certification schemes should be encouraged and promoted as they are more appropriate in reflecting the conditions of countries in a given region or sub-region.

7.19 The use of criteria and indicators for sustainable forest management to address landscape level forest values in an integrated way so as to maximize land uses and the users of the land should be explored.

7.20 Currently as social, cultural and governance indicators are sparse, efforts should be taken to further develop or improve them through linking them with indicators used in other sectors, especially those focused on human development.

7.21 Cross-learning and exchange of experiences between countries in the region on the application of forest sustainability criteria and indicators with a view of selecting indicators that are measurable and for which credible baseline data exist or could be produced with a reasonable investment on data generation should be facilitated.

**FAO Questionnaire**

**Food and Agriculture Organization (FAO)  
survey on the status and needs for forest-related sustainability indicators**

The aim of this survey is to: a) provide an overview of the existence, type of use and experiences made by governmental and non-governmental bodies with C&I at regional/sub-regional and national levels; b) explore the need, potential and possible concrete next steps to enhance the added value and possible use by different governmental and non-governmental bodies.

To meet these objectives, we would kindly request that you, or your organization, supply the information required in this questionnaire, grouped into five information blocks:

- I. Approaches used to address or measure sustainability issues
- II. Current use of sustainability indicator sets
- III. Future use and potential of using sustainability indicator sets
- IV. Other useful contacts and further information
- V. Background and personal information

For answering the questions, please use the check boxes  and fill in the text fields .

Please note that:

- “Criteria and indicators for sustainable forest management (C&I for SFM)” means a set of indicators that provide information on the environmental, social, economic and governance aspects of forests, forest management and use.
- “Sustainability indicator sets that contain forest indicators” refers to sustainability indicator sets that cover specific sectors (e.g. environment, agriculture, energy, climate change) or sustainability indicator sets that cover sustainability in a broad, cross-sectoral way (e.g. national sustainable development).
- Requests for “a reference/internet link” should allow collecting more in-depth information on the respective topic. References can be titles of documents, links to documents, organizations or persons to contact (email/telephone).

**I. Approaches used to address or measure sustainability issues**

1. Does your organization address or measure sustainability issues?  Yes  No  
If yes, can you provide more information (e.g. main sustainability framework/approach used):
  2. Are you aware of a set of criteria and indicators for sustainable forest management (C&I for SFM) that was developed in your country?  Yes  No If yes, please provide an internet link, if available, or any reference that may provide us with more information
  3. Are you aware of other sets of sustainability indicators that contain forest indicators in your country?   
Yes  No
- If yes, please provide an internet link, if available, or any reference that may provide us with more

|                                   |
|-----------------------------------|
| information:                      |
| Comments and further information: |

**II. Current use of sustainability indicator sets**

4. a) Is your organization currently using C&I for SFM?  Yes  No  
If yes, please specify (reference/internet link), if available:
- b) Is your organization using other sustainability indicators containing forest indicators?  Yes  No
5. If your organization uses sustainability indicator sets, please indicate for what purpose and how frequently you use them (please provide further information in the comments section below).

| Use of sustainability indicator sets <u>as a framework for</u>  | Repeatedly / often | Some-times/ rarely | Not yet /never |
|---|--------------------|--------------------|----------------|
| a) Policy dialogue and planning (policy or strategy development, multi-year plans and action programs, budgeting)   |                    |                    |                |
| b) Guiding implementation of policies, plans and programs by administrations (guidance, rules, selection criteria, other)   |                    |                    |                |
| c) Guiding and structuring data collection and monitoring on forests, forest management and use or sustainability aspects;  |                    |                    |                |
| d) Guiding and structuring sustainability assessments and reporting of sectors (e.g. environment, energy, climate change, agriculture) or cross-sectoral sustainability assessments and reporting (e.g. rural development, natural resource management) |                    |                    |                |
| e) Guiding forest management practice (e.g. planning, implementation, monitoring, assessing, reporting, investment decisions for natural and planted forests, agroforestry, provision of non-timber forest products and services, etc.)                 |                    |                    |                |
| f) Developing and applying sustainability certification principles, standards and indicators  |                    |                    |                |
| g) Any other activities related to forest management/conservation or management of environmental and natural resources where you are using /or would need to use sustainability indicators. Please specify:   |                    |                    |                |

6. Please provide further information, incl. experiences and lessons learned:

Comments and further information:

**III. Future use and potential of using sustainability indicator sets**

7. Does your organization have concrete plans to further develop and use C&I for SFM or sustainability indicator sets?  Yes  No If yes, please specify plans:
8. For what purpose do you see the highest potential to use C&I for SFM or sustainability indicator sets containing forest indicators. Please specify numbers (a-h) as listed in Q5 above or provide text:
9. Which are the main constraints for your organization to use C&I or sustainability indicator sets:
10. In your opinion, what are three major possibilities to further strengthen/enhance the use of C&I for SFM or sustainability indicator sets:

|                                   |
|-----------------------------------|
| Comments and further information: |
|-----------------------------------|

|  |
|--|
| <b>IV. Other useful contacts and further information</b>   |
| <p>11. Do you know organizations, initiatives or projects in your country with experience or interest in using C&amp;I for SFM or sustainability indicator sets containing forest indicators?<br/>If yes, please provide names and contacts:</p> <p>12. Do you know of organizations/initiatives or projects that frequently or infrequently collect forest-related socio-economic or forest governance data? If yes, please provide names and contacts:</p> <p>a. Forest socio-economic data<sup>1</sup>:</p> <p>b. Forest governance data<sup>2</sup>:</p> |
| Comments and further information:  |

|   |  |
|---|--|
| <b>V. Background and personal information</b> |  |
| <b>Name:</b>                                  |  |
| <b>Organization:</b>                          |  |
| <b>Country:</b>                               |  |
| <b>Telephone:</b>                             |  |
| <b>E-mail:</b>                                |  |
| <b>Skype</b>                                  |  |

**Thank you very much!**  
**With your permission we may contact you by telephone/skype for additional information.**

<sup>1</sup>Socioeconomic data includes information on “employment, income, production and consumption of wood, non-wood products and services from forests, providing socio-economic benefits to society

<sup>2</sup> Forest governance data includes information on: i) policy, legal, institutional and regulatory frameworks, ii) planning and decision-making processes, iii) implementation, enforcement and compliance

**Annex 2**

**Number of Questionnaires Sent and Responded**

| Stakeholder Categories  | Region and Countries |        |          |           |          |          |          |             |           |          |          |            |
|---|----------------------|--------|----------|-----------|----------|----------|----------|-------------|-----------|----------|----------|------------|
|   | ASEAN                | Brunei | Cambodia | Indonesia | Lao PDR  | Malaysia | Myanmar  | Philippines | Singapore | Thailand | Viet Nam | Total      |
| <i>Inter-Governmental/Government organizations.</i>                     |                      |        |          |           |          |          |          |             |           |          |          |            |
| Forest (Departments, Administration, etc)                               | 1<br>(1)             | 1      | 1<br>(1) | 8<br>(3)  | 3<br>(1) | 6<br>(3) | 2<br>(1) | 1<br>(1)    | 1         | 1<br>(1) | 1<br>(1) | 26<br>(13) |
| Other relevant sectors  | 1<br>(1)             |        |          |           |          |          |          |             |           |          | 1        | 2<br>(i)   |
| <i>Regional/National NGOs</i>   |                      |        |          |           |          |          |          |             |           |          |          |            |
| Economic/private sector (Forest)  |                      |        | 1        | 2         | 1        | 7<br>(2) | 1        | 2<br>(2)    |           | 1        | 3        | 18<br>(4)  |
| Environmental NGOs  |                      |        | 1<br>(1) | 2         |          | 7<br>(3) |          | 2<br>(i)    |           |          | 2        | 14<br>(5)  |
| Social/civil society organizations                                      | -                    |        |          | 2         | 2        | 3<br>(2) |          |             |           |          | 1        | 8<br>(2)   |
| Forest certification bodies   | 1<br>(1)             |        |          | 1         |          | 1<br>(1) | 1<br>(1) |             |           |          |          | 4<br>(3)   |
| <i>Regional/National research organizations and institutes (forest)</i> | 4<br>(2)             |        | 1<br>(1) |           |          | 1<br>(1) |          | 2           |           | 2        | 1<br>(1) | 11<br>(5)  |

|  |          |   |          |           |          |            |          |          |   |          |          |            |
|--|----------|---|----------|-----------|----------|------------|----------|----------|---|----------|----------|------------|
|  |          |   |          |           |          |            |          |          |   |          |          |            |
| <i>Other relevant stakeholders (e.g. development partners)</i> | 1        |   |          |           |          |            | 1        |          |   |          |          | 2          |
| Total  | 8<br>(5) | 1 | 4<br>(3) | 15<br>(3) | 6<br>(1) | 25<br>(12) | 5<br>(2) | 7<br>(4) | 1 | 4<br>(1) | 9<br>(2) | 85<br>(33) |

**Note:** Figures in brackets are the number of Responses received.

**Summary:**

- Total number of questionnaires sent - 85
- Total number of questionnaires responded – 33 (38.8% received)

**Format for Paper Preparation**

*“Use of forest criteria and indicators as a framework for forest management and certification, and policy and strategy development in the forestry sector in Viet Nam”*

**I. Introduction**

1. Provide a brief background of your organization.
2. Elaborate the main reasons for your organization to use forest sustainability criteria and indicators<sup>3</sup> as a framework for *forest management and certification, and policy and strategy development in the forestry sector in Viet Nam*.

**II. Experiences on the use of forest sustainability criteria and indicators**

3. Provide a description of your experience on the use of forest sustainability criteria and indicators as a framework for *forest management and certification, and policy and strategy development in the forestry sector in Viet Nam*. Elaborate on what are the added values in using them and the constraints and obstacles faced, if any.

**III. Lessons learned**

4. Elaborate the major lessons learned (positive and negative, what has worked/not worked, preconditions, cost efficiency/effectiveness).
5. Elaborate the major risks and what happened in using forest sustainability criteria and indicators for achieving the objectives of your work, including future risks, if any.

**VI. Needs for further development and promotion of forest sustainability criteria and indicators**

6. Provide a description on how could the forest sustainability criteria and indicators as a framework for *forest management and certification, and policy and strategy development in the forestry sector in Viet Nam* be made more relevant for your organization and other stakeholders?
7. Elaborate on the most promising other uses of forest sustainability criteria and indicators, and what do you think would be needed to promote these [please refer to the attached Table 1 on the 5 main uses of forest sustainability criteria and indicators].

**V. Recommendations/views on further development and use of forest sustainability criteria and indicators and proposals on concrete next steps**

8. What would you see as important next steps to further develop forest sustainability criteria and indicators and promote their use as a framework for *forest management and certification, and policy and strategy development in the forestry sector in Viet Nam* amongst other stakeholders and sectors?
9. How would you see the possible role of your organization in this work?

**VI. Conclusions**

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<sup>3</sup> Refer to criteria and indicators for sustainable forest management and other forest-related sustainability indicators, such as those used in REDD+, FLEGT processes, etc.

**Table 1: Use of forest criteria and sustainability indicators as a framework for**

| <b><u>Five Main Uses</u></b>  |
|---|
| a) Guiding implementation of policies, plans and programs by administrations (guidance, rules, selection criteria, other)   |
| b) Guiding and structuring data collection and monitoring on forests, forest management and use or sustainability aspects   |
| c) Guiding and structuring sustainability assessments and reporting of sectors (e.g. environment, energy, climate change, agriculture) or cross-sectoral sustainability assessments and reporting (e.g. rural development, natural resource management) |
| d) Guiding forest management practice (e.g. planning, implementation, monitoring, assessing, reporting, investment decisions for natural and planted forests, agroforestry, provision of non-timber forest products and services, etc.)                 |
| e) Developing and applying sustainability certification principles, standards and indicators  |

*VN Forest*

**Format for Paper Preparation**

*“Use of forest criteria and indicators as a framework for guiding implementation of forest policies, plans and programs in the Philippines”*

**I. Introduction**

1. Provide a brief background of your organization.
2. Elaborate the main reasons for your organization to use forest sustainability criteria and indicators<sup>4</sup> as a framework for *guiding implementation of forest policies, plans and programs in the Philippines*.

**II. Experiences on the use of forest sustainability criteria and indicators**

3. Provide a description your experience on the use of forest sustainability criteria and indicators as a framework for *guiding implementation of forest policies, plans and programs in the Philippines*. Elaborate on what are the added values in using them and the constraints and obstacles faced, if any.

**III. Lessons learned**

4. Elaborate the major lessons learned (positive and negative, what has worked/not worked, preconditions, cost efficiency/effectiveness).
5. Elaborate the major risks and what happened in using forest sustainability criteria and indicators for achieving the objectives of your work, including future risks, if any.

**IV. Needs for further development and promotion of forest sustainability criteria and indicators**

- a. Provide a description on how could the forest sustainability criteria and indicators as a framework for *guiding implementation of forest policies, plans and programs in the Philippines* be made more relevant for your organization and other stakeholders?
- b. Elaborate on the most promising other uses of forest sustainability criteria and indicators, and what do you think would be needed to promote these [please refer to the attached Table 1 on the 5 main uses of forest sustainability criteria and indicators].

**V. Recommendations/views on further development and use of forest sustainability criteria and indicators and proposals on concrete next steps**

- c. What would you see as important next steps to further develop forest sustainability criteria and indicators and promote their use as a framework for *guiding implementation of forest policies, plans and programs in the Philippines* amongst other stakeholders and sectors?
9. How would you see the possible role of your organization in this work?

**VI. Conclusions**

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<sup>4</sup> Refer to criteria and indicators for sustainable forest management and other forest-related sustainability indicators, such as those used in REDD+, FLEGT processes, etc.

**Table 1: Use of forest criteria and sustainability indicators as a framework for**

| <b><u>Five Main Uses</u></b>  |
|---|
| a) Policy dialogue and planning (policy or strategy development, multi-year plans and action programs, budgeting)   |
| b) Guiding and structuring data collection and monitoring on forests, forest management and use or sustainability aspects   |
| c) Guiding and structuring sustainability assessments and reporting of sectors (e.g. environment, energy, climate change, agriculture) or cross-sectoral sustainability assessments and reporting (e.g. rural development, natural resource management) |
| d) Guiding forest management practice (e.g. planning, implementation, monitoring, assessing, reporting, investment decisions for natural and planted forests, agroforestry, provision of non-timber forest products and services, etc.)                 |
| e) Developing and applying sustainability certification principles, standards and indicators  |

FMB

**Format for Paper Preparation**

*“Use of forest criteria and indicators as a framework for project design and monitoring, including land use planning and agroforestry”*

**I. Introduction**

1. Provide a brief background of your organization.
2. Elaborate the main reasons for your organization to use forest sustainability criteria and indicators<sup>5</sup> as a framework for *project design and monitoring, including land use planning and agroforestry*?

**II. Experiences on the use of forest sustainability criteria and indicators**

3. Provide a description your experience on the use of forest sustainability criteria and indicators as a framework for *project design and monitoring, including land use planning and agroforestry*. Elaborate on what are the added values in using them and the constraints and obstacles faced, if any.

**III. Lessons learned**

4. Elaborate the major lessons learned (positive and negative, what has worked/not worked, preconditions, cost efficiency/effectiveness).
5. Elaborate the major risks and what happened in using forest sustainability criteria and indicators for achieving the objectives of your work, including future risks, if any.

**IV Needs for further development and promotion of forest sustainability criteria and indicators**

6. Provide a description on how could the forest sustainability criteria and indicators as a framework for *project design and monitoring, including land use planning and agroforestry* be made more relevant for your organization and other stakeholders?
7. Elaborate on the most promising other uses of forest sustainability criteria and indicators, and what do you think would be needed to promote these [please refer to the attached Table 1 on the 5 main uses of forest sustainability criteria and indicators].

**V. Recommendations/views on further development and use of forest sustainability criteria and indicators and proposals on concrete next steps**

8. What would your see as important next steps to further develop forest sustainability criteria and indicators and promote their use as a framework for *project design and monitoring, including land use planning and agroforestry* amongst other stakeholders and sectors?
9. How would you see the possible role of your organization in this work?

**VI. Conclusions**

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<sup>5</sup> Refer to criteria and indicators for sustainable forest management and other forest-related sustainability indicators, such as those used in REDD+, FLEGT processes, etc.

**Table 1: Use of forest criteria and sustainability indicators as a framework for**

| <b><u>Five Main Uses</u></b>  |
|---|
| a) Policy dialogue and planning (policy or strategy development, multi-year plans and action programs, budgeting)   |
| b) Guiding implementation of policies, plans and programs by administrations (guidance, rules, selection criteria, other)   |
| c) Guiding and structuring data collection and monitoring on forests, forest management and use or sustainability aspects   |
| d) Guiding forest management practice (e.g. planning, implementation, monitoring, assessing, reporting, investment decisions for natural and planted forests, agroforestry, provision of non-timber forest products and services, etc.) |
| e) Developing and applying sustainability certification principles, standards and indicators  |

*Rowena Soriaga*

**Format for Paper Preparation**

*“Use of criteria and indicators as a framework for structuring data collection, assessment and reporting on sustainable forest management in the ASEAN Member States”*

**I. Introduction**

1. Provide a brief background of your organization.
2. Elaborate the main reasons for your organization to use forest sustainability criteria and indicators<sup>6</sup> as a framework for *structuring data collection, assessment and reporting on sustainable forest management in the ASEAN Member States*.

**II. Experiences on the use of forest sustainability criteria and indicators**

3. Provide a description your experience on the use of forest sustainability criteria and indicators as a framework for *structuring data collection, assessment and reporting on sustainable forest management in the ASEAN Member States*. Elaborate on what are the added values in using them and the constraints and obstacles faced, if any.

**III. Lessons learned**

4. Elaborate the major lessons learned (positive and negative, what has worked/not worked, preconditions, cost efficiency/effectiveness).
5. Elaborate the major risks and what happened in using forest sustainability criteria and indicators for achieving the objectives of your work, including future risks, if any.

**VI. Needs for further development and promotion of forest sustainability criteria and indicators**

6. Provide a description on how could the forest sustainability criteria and indicators as a framework for *structuring data collection, assessment and reporting on sustainable forest management in the ASEAN Member States* be made more relevant for your organization and other stakeholders?
7. Elaborate on the most promising other uses of forest sustainability criteria and indicators, and what do you think would be needed to promote these [please refer to the attached Table 1 on the 5 main uses of forest sustainability criteria and indicators].

**V. Recommendations/views on further development and use of forest sustainability criteria and indicators and proposals on concrete next steps**

8. What would your see as important next steps to further develop forest sustainability criteria and indicators and promote their use as a framework for *structuring data collection, assessment and reporting on sustainable forest management in the ASEAN Member States* amongst other stakeholders and sectors?
9. How would you see the possible role of your organization in this work?

**VI. Conclusions**

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<sup>6</sup> Refer to criteria and indicators for sustainable forest management and other forest-related sustainability indicators, such as those used in REDD+, FLEGT processes, etc.

**Table 1: Use of forest criteria and sustainability indicators as a framework for**

| <b><u>Five Main Uses</u></b>  |
|---|
| a) Policy dialogue and planning (policy or strategy development, multi-year plans and action programs, budgeting)   |
| b) Guiding implementation of policies, plans and programs by administrations (guidance, rules, selection criteria, other)   |
| c) Guiding and structuring sustainability assessments and reporting of sectors (e.g. environment, energy, climate change, agriculture) or cross-sectoral sustainability assessments and reporting (e.g. rural development, natural resource management) |
| d) Guiding forest management practice (e.g. planning, implementation, monitoring, assessing, reporting, investment decisions for natural and planted forests, agroforestry, provision of non-timber forest products and services, etc.)                 |
| e) Developing and applying sustainability certification principles, standards and indicators  |

ASEAN

**Format for Paper Preparation**

*“Use of criteria and indicators for monitoring, assessing and reporting of progress towards sustainable forest management in Peninsular Malaysia”*

**I. Introduction**

1. Provide a brief background of your organization.
2. Elaborate the main reasons for your organization to use forest sustainability criteria and indicators<sup>7</sup> as a framework for *monitoring, assessing and reporting of progress towards sustainable management in Peninsular Malaysia*.

**II. Experiences on the use of forest sustainability criteria and indicators**

3. Provide a description your experience on the use of forest sustainability criteria and indicators as a framework for *monitoring, assessing and reporting of progress towards sustainable management in Peninsular Malaysia*. Elaborate on what are the added values in using them and the constraints and obstacles faced, if any.

**III. Lessons learned**

4. Elaborate the major lessons learned (positive and negative, what has worked/not worked, preconditions, cost efficiency/effectiveness).
5. Elaborate the major risks and what happened in using forest sustainability criteria and indicators for achieving the objectives of your work, including future risks, if any.

**IV. Needs for further development and promotion of forest sustainability criteria and indicators**

6. Provide a description on how could the forest sustainability criteria and indicators as a framework for *monitoring, assessing and reporting of progress towards sustainable management in Peninsular Malaysia* be made more relevant for your organization and other stakeholders?
7. Elaborate on the most promising other uses of forest sustainability criteria and indicators, and what do you think would be needed to promote these [please refer to the attached Table 1 on the 5 main uses of forest sustainability criteria and indicators].

**V. Recommendations/views on further development and use of forest sustainability criteria and indicators and proposals on concrete next steps**

8. What would your see as important next steps to further develop forest sustainability criteria and indicators and promote their use as a framework for *monitoring, assessing and reporting of progress towards sustainable management in Peninsular Malaysia* amongst other stakeholders and sectors?
9. How would you see the possible role of your organization in this work?

**VI. Conclusions**

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<sup>7</sup> Refer to criteria and indicators for sustainable forest management and other forest-related sustainability indicators, such as those used in REDD+, FLEGT processes, etc.

**Table 1: Use of forest criteria and sustainability indicators as a framework for**

| <b><u>Five Main Uses</u></b>  |
|---|
| a) Policy dialogue and planning (policy or strategy development, multi-year plans and action programs, budgeting)   |
| b) Guiding implementation of policies, plans and programs by administrations (guidance, rules, selection criteria, other)   |
| c) Guiding and structuring data collection and monitoring on forests, forest management and use or sustainability aspects   |
| d) Guiding and structuring sustainability assessments and reporting of sectors (e.g. environment, energy, climate change, agriculture) or cross-sectoral sustainability assessments and reporting (e.g. rural development, natural resource management) |
| e) Developing and applying sustainability certification principles, standards and indicators  |

*FDPM*

**Format for Paper Preparation**

*“Use of forest criteria and indicators for forest management certification under the Malaysian Timber Certification Scheme (MTCS)”*

**I. Introduction**

1. Provide a brief background of your organization.
2. Elaborate the main reasons for your organization to use forest sustainability criteria and indicators<sup>8</sup> as a framework for *forest management certification under the Malaysian Timber Certification Scheme (MTCS)*.

**II. Experiences on the use of forest sustainability criteria and indicators**

3. Provide a description your experience on the use of forest sustainability criteria and indicators as a framework for *forest management certification under the Malaysian Timber Certification Scheme (MTCS)*. Elaborate on what are the added values in using them and the constraints and obstacles faced, if any.

**III. Lessons learned**

4. Elaborate the major lessons learned (positive and negative, what has worked/not worked, preconditions, cost efficiency/effectiveness).
5. Elaborate the major risks and what happened in using forest sustainability criteria and indicators for achieving the objectives of your work, including future risks, if any

**IV. Needs for further development and promotion of forest sustainability criteria and indicators**

6. Provide a description on how could the forest sustainability criteria and indicators as a framework for *forest management certification under the Malaysian Timber Certification Scheme (MTCS)* be made more relevant for your organization and other stakeholders?
7. Elaborate on the most promising other uses of forest sustainability criteria and indicators, and what do you think would be needed to promote these [please refer to the attached Table 1 on the 5 main uses of forest sustainability criteria and indicators].

**V. Recommendations/views on further development and use of forest sustainability criteria and indicators and proposals on concrete next steps**

8. What would your see as important next steps to further develop forest sustainability criteria and indicators and promote their use as a framework for *forest management certification under the Malaysian Timber Certification Scheme (MTCS)* amongst other stakeholders and sectors?
9. How would you see the possible role of your organization in this work?

**VI. Conclusions**

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<sup>8</sup> Refer to criteria and indicators for sustainable forest management and other forest-related sustainability indicators, such as those used in REDD+, FLEGT processes, etc.

**Table 1: Use of forest criteria and sustainability indicators as a framework for**

| <b><u>Five Main Uses</u></b>  |
|---|
| a) Policy dialogue and planning (policy or strategy development, multi-year plans and action programs, budgeting)   |
| b) Guiding implementation of policies, plans and programs by administrations (guidance, rules, selection criteria, other)   |
| c) Guiding and structuring data collection and monitoring on forests, forest management and use or sustainability aspects   |
| d) Guiding and structuring sustainability assessments and reporting of sectors (e.g. environment, energy, climate change, agriculture) or cross-sectoral sustainability assessments and reporting (e.g. rural development, natural resource management) |
| e) Guiding forest management practice (e.g. planning, implementation, monitoring, assessing, reporting, investment decisions for natural and planted forests, agroforestry, provision of non-timber forest products and services, etc.)                 |

MTCS

**Use of forest criteria and indicators as a framework for forest management and certification, and policy and strategy development in the forestry sector in Viet Nam<sup>9</sup>**

**1.0 Introduction**

1.1 The Department of Forestry Utilization of the Viet Nam Administration Forestry performs the function of advising and assisting the Directorate General of Viet Nam Administration Forestry to execute state management in forestry, as follows:

- (i) Joint draft bills and draft ordinances, draft legal documents according to specialized programs, plans to build its annual law and projects, and projects as assigned by the Director General.
- (ii) Joint strategy, planning and long-term development plan, five-year and annual strategies, key areas of planning, inter-regional, inter-provincial and programs, schemes, projects and specialized management areas as assigned by the Director General.
- (iii) Submit to the Director General for issuance of documents guiding individuals and professional services for specialized domains assigned to manage forest lands. Notify implementation of blueprints for programs, schemes and projects by the Directorate General for local management units after they have been approved by the Director General in the overall area of planning under the jurisdiction of the Department.
- (iv) Educate and dissemination laws to guide and inspect the implementation of legal documents, strategies, plans, programs, schemes, projects, standards and regulations, technical standards, procedures, rules, and norms that have been approved under the jurisdiction of the Department.
- (v) Guide the development, evaluation and inspection, and monitoring the implementation of forest management plans, forest exploitation plans of organizations, households' implementation mechanisms, policies, standards, technical regulations on the exploitation and use of natural forests, plantations and other non-timber forest products to ensure sustainability and economic efficiency.
- (vi) Implement schemes and projects in the field of timber harvesting, non-timber forest products and projects in the field of management and use of forests.
- (vii) Guide, monitor, aggregate export and import of timber and other forest products and suggest appropriate management measures, as well as

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<sup>9</sup> Prepared by Khuat Thi Lan Anh, Officer, Forest Utilization Department, Viet Nam Administration of Forestry.

propose forest programs, plans, scientific research, application of advanced technologies and techniques related to forest utilization.

1.2 The implementation of sustainable forest management and forest certification has been considered as one of the key missions of the forestry sector in Viet Nam. This was clearly stipulated in the Viet Nam Forestry Development Strategy 2006-2020 which was approved in the Prime Minister's Decision No.18/2007/QD-TTg dated 5 February 2007. The major highlights are as follows:

- (i) To sustainably establish, manage, protect, develop and use 16.24 million ha of land planned for forestry.
- (ii) To increase the ratio of land with forest up to 42 - 43% by the year 2010 and 47% by 2020.
- (iii) To increase efforts to get forest certification of 30% of the production forest areas (8.4 million ha).

1.3 In recent years, a great deal of activities, programs and plans at national and forest owner levels, as well as a number of activities of international organizations related to the preparation of sustainable forest management plans for forest certification have been implemented.

1.4 The Ministry of Agriculture and Rural Development has directed the Research Institute for Sustainable Forest Management and Forest Certification (SFMI) to work in collaboration with national and international consultants to develop a National Standard for Sustainable Forest Management (NSSFM) comprising 56 criteria and 210 indicators based on the Forest Stewardship Council (FSC) standard since 2000. Despite its completion, the Viet Nam Standard has not been considered and applied by the authorities as yet.

1.5 The implementation of sustainable forest management in Viet Nam is facing many difficulties and obstacles, as follows:

- (i) Unclear and inconsistent awareness of the government agencies about sustainable forest management has led to confusion in defining their roles in the implementation in the field. Since the end of the last century, sustainable forest management has been done according to annual forest exploitation schemes approved by the authority. According to the plans, forest owners did the logging under the allocation with the profit from timber sale going into the government budget. It was obvious that forest owners had no right to take the initiative in the business of forest exploitation because all their activities of forest management, protection and trading were limited by government plans. After the approval of the Viet Nam Forestry Development Strategy, sustainable forest management has been carried out according to international standards of forest certification. However, only a small number of forest owners have met the standards as mentioned above. The rest are still performing forest management under the traditional forest management plan which is unable to satisfy the requirements in the field of forest management under current conditions. Therefore, the improvement and promulgation of the

NSSFM will not only fulfill the demand of sustainable forest management in the context of Viet Nam, but also to meet the international standards which are extremely necessary.

- (ii) No agency is appointed to be the focal point for the implementation of sustainable forest management and forest certification in Viet Nam, while coordination mechanisms and roles of stakeholders are not identified due to the lack of attention from the relevant government agencies.
- (iii) Lack of legislative instruments and guiding documents on sustainable forest management and forest certification of government agencies.
- (iv) Plans and roadmaps for the implementation of sustainable forest management with clearly identified roles and tasks of government agencies, forestry enterprises and forest owners have yet to be developed.
- (v) Sustainable forest management and forest certification are complex issues that require extensive involvement of agencies within and outside the forestry sector, forest owners, national and international consultants in the development of standards and criteria in accordance with the conditions of each country.
- (vi) Lack of the awareness on the establishment of a timber association representing certified units for communication and promotional activities, including their roles, in the context of sustainable forest management.
- (vii) Efforts in building capacity on sustainable forest management and forest certification for forestry staff at all levels, including for forest owners are still lacking.

1.6 Due to the above reasons, the research and the establishment of government mechanisms, policies and guidelines on sustainable national forest management towards forest certification at this time are urgently needed. At the same time, the propagation and dissemination of basic knowledge of sustainable forest management and forest certification to stakeholders and society is also needed in order to enhance their understanding and responsibilities which will ensure effective implementation and contribute to the development of the forestry sector.

1.7 The European Union (EU) is one of Viet Nam largest timber export markets. Currently, the export of timber products to the market demands Viet Nam to participate in the Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan regulated by the EU. Its core is the Voluntary Partnership Agreement (VPA) which is meant to act as a practical mechanism for identifying and excluding illegal timber from the EU market. Under the scheme, timber that is legally harvested and exported to the EU would be identified by means of a FLEGT-license issued in signatory countries. Timber shipments to the EU from partner countries that do not have a FLEGT-license would be denied entry under the Agreement. Currently, Viet Nam is focused in developing the VPA to meet the requirements of timber products exported to the major markets in Europe. Therefore, the work of promotion, communication and dissemination of sustainable forest management is one of the most significant tasks for Viet Nam at this time. It will

not only guarantee timber legality, but also as a means to improve the value of exported products to meet the strict requirements of other large timber importing countries.

## **2.0 Experiences on the use of forest sustainability criteria and indicators**

2.1 In the process of implementing criteria and indicators for sustainable forest management in recent years in Viet Nam, one could draw some major experiences, as follows:

(i) Assisted Viet Nam to better manage its forests

2.2 The criteria and indicators for sustainable forest management have assisted Viet Nam to have better forest management and in addressing the three aspects of economy, society and environment.

2.3 Previously, Viet Nam used to prepare forest management plans simply based on principles of forestry management in order to maintain and improve forest production, function and uses without being interested in environmental and social issues. Since criteria and indicators for sustainable forest management became available, the forest management plan has become a part of the sustainable forest management plan. This gives significant support to Viet Nam to improve its forest management.

(ii) Develop a roadmap for national forest products to firmly meet the strict requirements of the international timber markets

2.4 Once having good forest management plans and with the development of the chain of wood products to demonstrate legal sources to meet the rigorous demands of the international timber markets, especially the USA (Lacey Act) and European markets (FLEGT Voluntary Partnership Agreements), it would then be easy for Viet Nam to apply them to its wood products. This will greatly enhance the commercial value of forest products and attract foreign investment in the wood processing industry, expand potential consumer markets and implement a roadmap for reduction in woodchip production for the period 2014-2020.

(iii) Forest management requires interdisciplinary collaborations in association with rural development

2.5 There are many causes of deforestation. For this reason, one should not recognize the forestry sector separately from the other sectors. For example, forestry policies play an important role in reducing the pressure on forest resources; the industry sector creates employment opportunities and increase income; and the education sector strengthens the awareness of forest protection.

## **3.0 Lessons learned**

3.1 In practice, the use of criteria and indicators for sustainable forest management as a framework for forest management and certification, and policy and strategy development of the forestry sector in Viet Nam has provided the following lessons:

- (i) Forest managers have more practical experience

3.2 The key factor contributing to the success of tropical forest management is forest managers should be well-trained and rich in practical experience. In fact, the weakness of management makes more harmful effect than any other factors of management of tropical forests. Good knowledge of technical, organizational, coordination, planning, evaluation and monitoring activities are important factors that can help managers to make appropriate decisions and cope with the regular fluctuations in performing their daily tasks.

- (ii) Forest farmers are given forest land use rights for the long term

3.3 Empowering forest management agencies, cooperatives and forestry companies participating in the implementation and management of forestry programs to use forest resources and land in the long term is not just a basic policy principle, but also a practical move that is extremely necessary to promote sustainable forest management. Furthermore, a clear policy commitment is essential to forest owners to have the right to permanent use of forest land, to feel secure and to invest their money in wood processing and production, and to protect watersheds and biodiversity. It also assists local people whose lives depend on the forests to grow medicinal herbs and other non-timber forest produces in the long term.

3.4 For areas where there has been a policy commitment to the goal of sustainable forest management, the next step of specifying policies is to build rational and reliable forms of empowerment of forest and forest land users. Promulgating forestry policies is an important step to:

- determine forest types and forest use rights, whether they are private or public, and rights and obligations of forest owners for each forest type;
- protect forests and natural ecosystems to maintain biodiversity and landscape, and facilitate economic and social development;
- develop approve and implement forest management plans;
- develop and support multi-functional forest economic development in the combination of ecosystem conservation and use of natural resources for economic objectives; and
- provide a balance between timber production goals, environment and society.

3.5 There is a need for an independent certification body to audit the compliance with sustainable forest management and timber certification schemes, and that forest enterprises need to establish forest certification support teams which are responsible for implementing sustainable forest management system. Household groups should join in group certification to ensure that audit cost will be reduced and each household will get to enjoy the benefits from the certification process. In this regard, training in implementing timber traceability as well as the chain of custody is also needed to ensure transparency in wood product harvesting and management.

3.6 In addition, forests provide many benefits at both the local and national levels. Timber production is the core target to earn income for the government, forestry companies and forest owners. This is the main driver of tropical forest exploitation. Income from logging is financial resources to permanently reinvest in sustainable forest management. Non-timber forest products such as rattans, medicinal herbs, food plants, resins and wildlife play a role that is not less important. Rainforests are habitats to millions of rural people, whose lives depend on the forests, including acting as energy sources to the communities. Forests are also places to regulate sources of water in watersheds and in supplying water to hydroelectric plants. Moreover, forests are areas for conserving biodiversity values, as well as recreational and aesthetic values. Therefore, the development of forest management plans requires a long-term vision that balances timber harvesting, the environment and societal needs. Specifically, planners and forest managers need to recognize the value of forests and ensure the sustainability of the whole forest ecosystem as many other sectors of society also depend on them.

3.7 The major risks in using forest criteria and indicators as a framework for policy and strategy development in the forestry sector in Viet Nam include:

- (i) If the criteria and indicators for forest sustainable management are used as a framework for policy and strategy development in the forestry sector in Viet Nam, it could be a big risk for the Viet Nam forestry sector because the criteria and indicators are only one of many others used in the forestry sector.
- (ii) Viet Nam has enjoyed the international integration period as well as participation in international markets. For this reason, Viet Nam must comply with the strict requirements of the international markets, especially the USA and European markets which are the two main wood export markets of Viet Nam. Viet Nam has been putting great efforts into satisfying the needs of these two markets which are regulated by the Lacey Act and the EU-FLEGT Voluntary Partnership Agreement respectively so as to guarantee Vietnamese furniture can be exported without any obstacles. Hence, it is imperative for criteria and indicators used for sustainable forest management to fully support the market demand for timber products sourced from legal and sustainable managed forests.

#### 4.0 **Needs for further development and promotion**

4.1 There are some works that need to be done to make criteria and indicators more relevant for the Department of Forestry Utilization as well as for other stakeholders, as follows:

- (i) In using criteria and indicators for sustainable forest management as the basis to develop policy and strategy in the forestry sector in Viet Nam, consultation with stakeholders is necessary in developing the criteria and indicators. Stakeholders are defined as local authorities, relevant specialist departments at all levels, local communities, social and political organizations, and non-governmental organizations.

- (ii) Capacity building for managers in the direction of specialization and diversified aspects of the economy, society and environment to ensure the harmony of benefits for organizations and stakeholders in decision making.

4.2 The most promising other uses of the criteria and indicators are practical guidelines, among others, for forest management planning, implementation, monitoring, evaluation, reporting, and investment decisions for natural forests and plantations, agro-forestry, and providing non-timber forest products and services. This was stipulated in the Circular No. 38/TT-BNN dated 3 November 2014 of the Ministry of Agriculture and Rural Development that provides guidance for implementing sustainable forest management plans which was attached to the National Standard for Sustainable Forest Management, effective on 20 December 2014.

## 5.0 Recommendations on further development and use

5.1 To enhance the further use of forest sustainability criteria and indicators in Viet Nam it will require the following:

- (i) Continue to complete the Standard for Sustainable Forest Management to meet international requirements. It will form the basis for sustainable forest management and forestry policy and strategy development in Viet Nam.
- (ii) Enhance the capacity of management agencies in the forestry sector, as well as strengthen the awareness of forest owners.
- (iii) Support from organizations, programs and projects to assist the Vietnamese government to further develop a forestry policy framework in general and sustainable forest management in particular, in accordance with existing international needs.

## 6.0 Conclusions

6.1 Sustainable forest management is one of three key program areas in the strategy for forestry development for the period 2006-2020. After eight years of implementing and testing, considerable experience has been gained. This is a precious experience for replicating the model of sustainable forest management on a national scale and to formulate a comprehensive policy framework to ensure the strong development of the forestry industry.

6.2 The Department of Forest Utilization is the agency responsible for developing and implementing the Standard for Sustainable Forest Management on a national scale and in accordance to the laws in force. In addition, the Department is also responsible for the preparation of legislative documents and the state management plans related to forestry production, including sustainable forest management and certification, wood and forest products associated with production and processing zones, forest management organizations, dissemination and legal education in specialized management areas of assigned responsibility.

6.3 However, to use criteria and indicators for sustainable forest management as a framework for policy and strategy development in Viet Nam, it is necessary to develop a development roadmap in order to match the growing needs of the country and at the same time to satisfy international requirements.

**Use of criteria and indicators as a framework for structuring data collection, assessment and reporting on sustainable forest management in the ASEAN Member States**

**1.0 Introduction**

1.1 The Association of South East Asian Nations (ASEAN) was first established in 1967 by five countries, namely, Indonesia, Malaysia, the Philippines, Singapore and Thailand. It has since evolved to include Brunei Darussalam, Myanmar, Viet Nam, Lao PDR and with Cambodia as the last country to join in 1999. It now comprises of all ten Southeast Asia countries. The framework of co-operation in ASEAN has evolved from political and security to cover economy and socio-cultural areas.

1.2 In ASEAN, policy coordination and decision-making on regional co-operation in the forestry sector is the responsibility of the ASEAN Senior Officials on Forestry (ASOF). They are guided by the ASEAN Ministers Meeting on Agriculture and Forestry (AMAF), the highest sectoral ministerial body that handles the co-operation in food, agriculture and forestry in ASEAN, which is supported by the Senior Officials Meeting of the ASEAN Ministers on Agriculture and Forestry (SOM-AMAF).

1.3 The total forest cover in the ASEAN region in 2010 was 213.32 million ha or about 49.3% of the region's total land area of 432.61 million ha. Although the region occupies only 3% of the world's total surface area, 20% of all known species are found to live deep in its mountains, jungles, rivers, lakes and seas. Three of the world's 17 megadiversity countries, namely, Indonesia, Malaysia and the Philippines are in ASEAN.

1.4 However, the forest areas of ASEAN as a whole had recorded an annual rate of decline of 0.7% over the period 1990-2010 or a total loss of 32.97 million ha, with the highest decline recorded in Cambodia that was estimated at 2.85 million ha or 1.1% annually. Over the same period, Viet Nam had recorded the highest increase in forest area among the ASEAN Member States (AMS) which was estimated at 4.43 million ha or 2.4% annually, mainly as a result of its aggressive forest plantation programs.

1.5 Notwithstanding this, the ASEAN Vision 2020, released in December 1997, underlines the region's commitment for a common understanding to "promote the forestry sector as a model in forest management, conservation and sustainable development". This Vision is further elaborated through the adopted Declaration of ASEAN Concord II (Bali Concord II) in October 2003 which, among others, emphasizes the promotion of sustainable management of forest resources, including the protection of forests in an ecologically sound and integrated manner by developing and adopting common criteria for sustainable forest management in ASEAN, the conservation of the ASEAN's rich biological diversity, as well as critical ecosystems through the eradication of unsustainable practices and related activities.

1.6 In addition, the Vientiane Action Programme (VAP), 2004-2010, adopted in November 2004 at the Tenth ASEAN Summit in Vientiane, Lao PDR, which would steer ASEAN towards the realization of the ASEAN Vision 2020 and the long-term perspectives provided by the Bali Concord II, further calls for "promoting forest

management as a model in sustainable development by harmonizing environmental, social and economic policies”, and to strengthen ASEAN co-operation and joint approaches in addressing international and regional issues, as well as participate in the development of a global partnership for development.

1.7 To realise environmentally sustainable planning and management of the region’s forests, ASEAN has developed the ASEAN Criteria and Indicators for Sustainable Management of Tropical Forests (ASEAN C&I) and the Monitoring, Assessment and Reporting Format for Sustainable Forest Management in ASEAN (MAR Format) for structuring data collection, assessment and reporting on sustainable forest management practices in AMS. Both the documents were approved by the 10<sup>th</sup> Meeting of ASOF in July 2007 and endorsed by the 29<sup>th</sup> AMAF in November the same year for application by AMS. They were fully reflected in the Roadmap for an ASEAN Community (2009-2015), more specifically the ASEAN Socio-Cultural Community (ASCC) Blueprint, as well as in the Strategic Plan of Action (SPA) of ASEAN Co-operation in Forestry (2011-2015).

## **2.0 Experiences on the use of forest sustainability criteria and indicators**

2.1 The ASEAN C&I has adopted the seven common thematic areas of the 2003 “International Conference on the Contribution of Criteria and Indicators for Sustainable Forest Management: The Way Forward (CICI-2003),” held in Guatemala City, Guatemala, as the seven criteria for sustainable forest management for the ASEAN region, while the indicators were drawn from the 2005 “Revised ITTO Criteria and Indicators for the Sustainable Management of Tropical Forests, including Reporting Format.” The seven common thematic areas or criteria used in the ASEAN C&I are (i) extent of forest resources, (ii) biological diversity, (iii) forest health and vitality, (iv) productive functions of forest resources, (v) protective functions of forest resources, (vi) socio-economic functions, and (vii) legal, policy and institutional framework.

2.2 It covers criteria and indicators for both natural and planted forests at the national and forest management unit (FMU) levels, as well as those applicable at the ASEAN level. In this regard, all the criteria are applicable at the national, FMU and ASEAN levels. In the case of indicators, out of the 59 indicators identified, 51 are common to all the three levels covering a range of forestry aspects required to attain sustainable forest management, from economic and institutional frameworks; description of resource base and conservation and protection procedures; areas damaged by human activities and natural causes; resource assessment and planning procedures for forest harvesting; species and genetic diversity; management guidelines for reduced/low impact logging; the protection of soil productivity and downstream catchment values; and endangered, rare and threatened species, including procedures for their monitoring and evaluation; utilization of wood and non-wood forest products; and employment; to community participation.

2.3 The eight indicators that only address sustainable forest management at the national and ASEAN levels but not at the FMU level include those dealing with policy and legal framework; structure and staffing of institutions responsible for sustainable forest management; extent of total forest areas managed exclusively for soils and water protection; statistics of protected areas and areas connected by corridors or "stepping stones" between them; research and education; and sites for forest recreation.

2.4 The MAR Format was developed based on the ASEAN C&I to enable the ASEAN Secretariat to structure the systematic collection of data and/or information from each AMS pertaining to the achievement of sustainable management of ASEAN's forests. Towards this end, computer programs were developed to enable the MAR Format to operate both online and offline. Training courses among AMS at the ASEAN level on the application of the ASEAN C&I and in using the MAR Format, both online and offline for data capture in AMS were also conducted in 2009 and 2010, including undertaking field trials on the application of the MAR system in Cambodia. Currently, the developed program for the online MAR Format is housed at the ASEAN Forest Clearing House Mechanism (CHM) hosted by the ASEAN Secretariat.

2.5 ASEAN Member States have agreed to provide updates to the online MAR Format on a biennial basis. This will allow the ASEAN Secretariat to produce periodic synthesis reports on the progress in achieving sustainable forest management at the ASEAN level, as well on the status of forest cover, management, conservation and development of the forest resources in ASEAN to international organizations and bodies, such as FAO and the United Nations Forum on Forests (UNFF). In this regard, ASEAN was granted an observer status at the UNFF during its Fourth session in May 2004.

2.6 The MAR Format which is supported by the CHM is also part of its knowledge based management system which facilitates exchange of best practices of Member States and serves as a platform for regional forest policy dialogue.

2.7 During the implementation of the MAR Format, especially its online component, the ASEAN Secretariat has experienced among others, different interpretation of some of the terms used in the MAR Format by individual AMS; lack of inter- and intra-agency collaboration for data collection; inadequate timely and reliable temporal and spatial data and/or information; lack of internalization in the implementation of the MAR Format through existing forestry platforms in AMS and/or other integrated programs relevant to forests; lack of a dedicated or specialized body to collect the structured information required by the MAR Format in each AMS; limited human and financial resources; lack of awareness and capacity among the stakeholders involved in data collection; and inadequate identification of which indicators that were not relevant at the national and FMU levels in individual AMS.

### **3.0 Lessons learned**

3.1 The online MAR Format needs to be easily accessible and more user-friendly, especially with more scroll functions and pop-up screens such as for definitions of various forest types; as well as the stakeholders at the FMU level should be well-versed with the data requirements of the MAR Format. This is pertinent as the overall sustainability of the management of a nation's forests is not only dependent upon actions taken at the national level, such as legislation and land-use planning, but also upon the quality of management of the aggregate of all forest management units. Hence, the application of the MAR Format could be further enhanced if the Format could also be prepared in local languages of each AMS.

3.2 Some of the major risks in using the MAR Format to structure the data and information to be captured at the ASEAN level are that trained trainers in AMS are promoted as part of their career development or have left the organizations; the online MAR Format has become obsolete in the light of technological advances; the information

captured by the MAR Format does not reflect and meet current needs, such as information on forest carbon sequestration and carbon stock, forest governance, ecosystem resilience and forest biological diversity, and the working conditions of forest workers.

#### **4.0 Needs for further development and promotion**

4.1 In structuring data collection, assessment and reporting on sustainable forest management practices in AMS, it is pertinent to ensure that the activities are aligned with the needs and priority of each AMS. Participation of relevant stakeholders at all level of society should also be enhanced, especially those representing social and environmental non-governmental organizations at the local level.

4.2 There is also a need to streamline and synchronize reporting cycles of Member States and ASEAN, taking cognizance of the reporting cycles of legally binding multilateral environmental agreements.

4.3 Nevertheless, the most promising use of forest sustainability indicators from the ASEAN perspective is that it will enable AMS to move towards forest management certification in the overall context of timber certification. For example, Malaysia has used the FSC Principles and Criteria for Forest Stewardship to develop the Malaysian Criteria and Indicators for Forest Management Certification (Natural Forest) (MC&I 2002) comprising nine Principles, 47 Criteria and 96 Indicators, and the MC&I for Forest Management Certification (Forest Plantations) with ten Principles, 55 Criteria and 107 Indicators; while Myanmar has developed Criteria and Indicators for Forest Certification (Natural Forest) (2007) consisting of seven Criteria and 51 Indicators based on the Revised ITTO Criteria and Indicators for Sustainable Management of Tropical Forests, including Reporting Format. Verifiers were also formulated for each indicator in both the Malaysia and Myanmar forest management certification schemes.

4.4 The information generated through the use of the MAR Format will enable the ASEAN Secretariat to hold policy dialogue with AMS in developing strategies and action programs for sustainable forest management through its Strategic Plan of Action of ASEAN Co-operation in Forestry.

4.5 The experiences and confidence gained in using forest sustainability criteria and indicators have also greatly assisted a number of AMS to engage in the EU-FLEGT VPA process. Currently, Indonesia has ratified the VPA with the EU which entered into force on 1 May 2014, while Malaysia is finalizing the VPA with the EU, and Lao PDR, Thailand and Viet Nam are continuing their negotiations with the EU. The other AMS, namely, Cambodia, the Philippines and Myanmar have indicated their interest and are conducting VPA dialogues with the EU.

4.6 Criteria and indicators for sustainable forest management have also guided countries in the ASEAN region to implement best practices in managing their forest resources that are earmarked for permanent forestry uses to ensure their sustainability. They have also been used by Cambodia, Indonesia, Malaysia, Myanmar, the Philippines, Thailand and Viet Nam to prepared periodic reports on the status of sustainable forest management to ITTO as they are members of the organization.

## 5.0 Recommendations on further development and use

5.1 The ASEAN Secretariat should assist AMS to develop standards of performance which may often, within countries, be specific to particular forest types as criteria and indicators in themselves cannot establish whether management is or is not sustainable. This should also take into account regional and sub-regional characteristics of forests and the diversity of social and cultural environments, as well as the different level of economic development among AMS.

5.2 It should also facilitate cross-learning and exchange of experiences between AMS in the application of the online MAR Format in capturing structured information on progress towards achieving sustainable forest management at the ASEAN level through the CHM.

5.3 To further enhance the collection of timely and reliable data by AMS, a set of instructions, as compendium to the online MAR Format on the ways and means to provide the information required by the ASEAN C&I, especially the quantitative information, should be prepared. The ASEAN Secretariat should also facilitate in-country training to raise awareness and enhance the application of the MAR Format, especially at the FMU level.

5.4 Assistance should be given to AMS to develop national databases or at least enhance their existing databases, including strengthening their information sharing networks, to provide the necessary data and/or information required by the MAR Format to the ASEAN Secretariat in accordance with agreed timelines.

5.5 It is also imperative that better inter-agency coordination be further strengthened at both the national and forest management unit levels to ensure that the information requested by the MAR Format is efficiently provided to the ASEAN Secretariat, perhaps an inter-agency task forces or working groups be established in each AMS. This would involve horizontal coordination between actors in the different sectors, but working at the same territorial level, for example, forest and customs officials; and vertical coordination among actors operating in the same sector, but at different levels, such as national and local forest administrators. This would also ensure horizontal and vertical information flow and accountability between the different tiers of government.

5.6 ASEAN would have to develop mechanism and tools to track its progress and ensure that the targets are achieved, corrective measures are taken when needed and that activities remain consistent with the ASEAN's goal of achieving sustainable forest management, as well as responsive to emerging issues and in meeting regional and international benchmarks, including the development of a scorecard.

5.7 The ASEAN Secretariat should also further source support from its dialogue and development partners, as well as other donors, to empower AMS to provide the structured information in a cost-effective manner and on a timely basis so that analytical reports on the status of forest management, conservation and development at the ASEAN level could be prepared and shared with AMS.

## 6.0 **Conclusions**

6.1 The information generated through the captured structured data on sustainable forest practices in the AMS will help policy and decision-makers in AMS and the ASEAN Secretariat to communicate the status of sustainable forest management more effectively to the public.

6.2 It will also enable the ASEAN Secretariat to produce timely reports on the status of forest cover and progress towards achieving forests sustainability for the region as a whole to international organizations and fora, such as the UNFF, as well as to its dialogue and development partners.

**Use of criteria and indicators for monitoring, assessing and reporting of progress towards sustainable forest management in Peninsular Malaysia**

**1.0 Introduction**

1.1 Under Article 74 (2) of the Malaysian Constitution, forestry comes under the jurisdiction of the respective State Governments which are empowered to enact laws and formulate policy on forestry independently. The executive authority of the Federal Government only extends to the provision of advice and technical assistance, training, and the conduct of research.

1.2 As such, the adoption of a common approach to forestry, as well as reconciliation of cross-sectoral policies that interface with the forestry sector is coordinated and facilitated by the National Land Council (NLC) which is empowered under the Malaysian Constitution to formulate, among others, a national policy for the promotion and control of utilization of land for mining, agriculture and forestry, together with the National Finance Council. It serves as a forum for the Federal and the State Governments to discuss and resolve common problems and issues relating to forestry policy, administration and management, including the determination of annual felling coupes for the Permanent Reserved Forests. The responsibility for implementing the decisions of the NLC lies with the State Governments unless it is within the authority of the Federal Government.

1.3 In this context, the Forestry Department Peninsular Malaysia, established in 1901, with its Headquarters in Kuala Lumpur and headed by a Director-General of Forestry, oversees the eleven State Forestry Departments located throughout the peninsula and the Forestry Department of the Federal Territory of Kuala Lumpur. The Department is responsible for managing the forest resources sustainably for the continuous production of forest goods and ecosystem services that are compatible with environmental and social requirements; enhancing the quality, productivity and utilization of the forest resources through appropriate environmentally sound technology; conserving and protecting the forest biological diversity, including their sustainable utilization; increasing the efficiency of the forest-based industries, as well as enhancing higher valued-added downstream activities; and strengthening human resource development to support the forestry sector through education and training of field operators.

1.4 The National Forestry Policy, 1977 approved by the NFC in April 1978 and revised in 1992 provides the basis for the management and development of the forest resources in Peninsular Malaysia, including the conservation of forest biological diversity. The Policy is currently under reviewed where greater emphasis will be given to the welfare of indigenous people and local communities living in and/or adjacent to forest areas, the role of forests in mitigating climate change through carbon sequestration and storage, and forest plantations in meeting future wood demand.

1.5 The legal framework to ensure effective implementation of the National Forestry Policy is defined by the National Forestry Act, 1984 that was amended in 1993 and the Wood-based Industries Act, 1984. Both these Acts are being implemented by the State

Authorities in Peninsular Malaysia through Enactments passed by their respective State Legislature.

1.6 Forest harvesting in Peninsular Malaysia is carried out by the private sector through harvesting licenses issued by the respective State Forestry Departments. All harvesting operations have to be conducted in accordance with the specifications and forest harvesting rules and guidelines established by the Departments. The role of the Departments is to monitor closely the implementation of environmental conservation measures during logging operation and the strict adherence to all technical matters pertaining to infrastructural development of the logging sector.

1.7 At the end of 2013, the total forest areas in Peninsular Malaysia was estimated to be 5.83 million ha or 44.3% of its total land area of 13.16 million ha, of which 4.94 million ha or 84.7% have been designated as Permanent Reserved Forests. In this regard, forest plantations established in Peninsular Malaysia are estimated at only 0.32 million ha, while the totally protected areas allocated for the conservation of biological diversity are estimated to be 2.54 million ha, representing 43.6% of its total forested land or 19.3% of its land area.

1.8 Malaysia as a producer member country of the International Tropical Timber Organization (ITTO) is fully committed to achieve sustainable forest management in the overall context of sustainable development. This is also to fulfill the *ITTO Year 2000 Objective* where member countries of ITTO have agreed to progress towards achieving sustainable forest management of tropical forests and that trade in tropical timber be sourced from sustainably managed forests.

1.9 Hence, a *National Committee on Sustainable Forest Management in Malaysia* was established in 1994 to coordinate the implementation of all the activities required to ensure that the forest resources in Malaysia are sustainably managed. In this regard, Malaysia had in 1994 developed a set of *Malaysian Criteria and Indicators for Sustainable Forest Management (MC&I)* at the national and forest management unit (FMU) levels to assess, monitor and report its progress towards the attainment of sustainable forest management. This was based on the 1992 ITTO's *Criteria for the Measurement of Sustainable Tropical Forest Management*. A total 27 indicators and 92 activities was identified under the 5 criteria of ITTO for monitoring and reporting progress towards sustainable forest management at the national level, while 30 indicators and 84 activities under the 6 criteria of ITTO were identified at the FMU level for assessing sustainable forest management practices.

1.10 However, with the adoption of the ITTO's *Criteria and Indicators for Sustainable Management of Natural Tropical Forests* in May 1998 and its two manuals for application at the national and FMU levels respectively in June 1999 by the ITTO Council, Malaysia had taken action to revise its MC&I through multi-stakeholders dialogues and consultations with interested parties at both the national and sub-national levels in 1999. The revised MC&I had identified a total of 64 indicators and 200 activities under the 7 criteria of ITTO at the national level for monitoring, assessing and reporting progress towards sustainable forest management, while 7 criteria, 56 indicators and 171 activities were formulated for monitoring and assessing sustainable forest management practices at the FMU level. To enhance the effective implementation of the activities, especially at the field level, Peninsular Malaysia had also formulated 170 and 150 standards of

performance for each of the activities identified at the national and FMU levels respectively.

1.11 In 2005, the MC&I was reformulated as the *Malaysian Criteria and Indicators for Forest Management Certification* [MC&I (2002)] using the Principles and Criteria of the Forest Stewardship Council as a template. The MC&I (2002) were also used by the Malaysian Timber Certification Council (MTCC) as the standard for forest management certification under the Malaysian Timber Certification Scheme (MTCS) which is endorsed by the Programme for the Endorsement of Forest Certification schemes (PEFC) since May 2009. It contains 9 principles, 47 criteria and 96 indicators, and with 233 verifiers applicable to Peninsular Malaysia.

1.12 Notwithstanding this and in line with international practices and the need to incorporate new knowledge gained on the use of forest sustainability criteria and indicators, a review of the MC&I (2002) was undertaken beginning April 2009 through a series of multi-stakeholders consultations involving government departments, forestry and timber agencies, timber trade associations, environmental and social non-governmental organizations (NGOs), academic and research institutions. The revised *Malaysian Criteria and Indicators for Forest Management Certification (Natural Forest)* [MC&I (Natural Forest)] which was finalized in September 2011 is currently being used by the State Forestry Departments in Peninsular for assessing, monitoring and reporting on progress towards the achievement of sustainable forest management, as well as by MTCC under the MTCS. It contains 9 principles, 47 criteria and 97 indicators, and with 307 verifiers applicable to Peninsular Malaysia.

1.13 In order to ensure that the agreed activities in the MC&I are implemented in the field by the respective State Forestry Departments in Malaysia, a *Task Force* at the Ministry in-charge of forestry was established in May 1995. To complement this effort, Peninsular Malaysia had also formed a *Technical Monitoring Committee* at the Forestry Department Headquarters, Peninsular Malaysia in October 1995 to monitor the implementation of all the activities undertaken by each of the State Forestry Departments in Peninsular Malaysia. With the support from Germany, Peninsular Malaysia had in 1999 developed a set of internal assessment procedures based on the criteria and indicators used for monitoring, evaluating and reporting on sustainable forest management.

1.14 Currently, a team of trained internal auditors is established at the Forestry Department Headquarters, Peninsular Malaysia to undertake assessment of at least once a year on the implementation of the MC&I (Natural Forest) by the eight certified FMU at the State level (Johor, Kedah, Kelantan, Negeri Sembilan, Pahang, Perak, Selangor and Terengganu) in Peninsular Malaysia, and which have been issued with PEFC *Certificate for Forest Management (Natural Forest)*. In this regard, the natural forests covered by the eight FMU of 4.51 million ha represent 97.0% of the total natural forests certified in Malaysia under the MTCS which is estimated to be 4.65 million ha, as of November 2014.

1.15 A *Technical Committee on Monitoring the Implementation of the MC&I* has also been established at the Forestry Department Headquarters, Peninsular Malaysia that meets quarterly to assess the implementation of criteria and indicators for sustainable forest management.

## **2.0 Experiences on the use of forest sustainability criteria and indicators**

2.1 The criteria, indicators, activities and the standards of performance or verifiers at the national level could be used for reporting progress towards achieving sustainable forest management to international organizations and agencies, such as ITTO, FAO and United Nations Forum on Forests (UNFF). Those formulated at the FMU level could be used by the State Forestry Departments to assess their capacity and readiness to have their natural forests certified by independent third party assessors in the overall context of timber certification.

2.2 The information generated through the use of criteria and indicators in monitoring and assessing the state of the forests has enable the State Forestry Departments to better communicate the status of sustainable forest management more effectively to the public, and in particular to the environmental and social NGOs. It has also assisted the Departments in identifying those areas which are in special need of international assistance and co-operation.

2.3 The implementation of criteria and indicators for sustainable forest management has further enhanced the capability of the State Forestry Departments to review their policies and strategies for sustainable forest management, and in identifying additional elements that constitute sustainable forest management, as well as ingredients for improvement in forest management plans preparation.

2.4 However, there is a need to train and re-train the staff involved in using criteria and indicators for sustainable forest management through structured training modules in view of their high mobility and turn-over, especially forest workers from the logging industry as they are paid on a piece-meal basis.

2.5 In additional, the cost required to fully realize the criteria and indicators for sustainable forest management at both the national and FMU levels is substantial, besides the need for endogenous capacity building and institutional strengthening, both in terms of personnel and governance.

## **3.0 Lessons learned**

3.1 The use of criteria and indicators has made it possible to systematically monitor, assess and report progress towards the achievement of sustainable forest management, especially at the field level. It has created greater awareness among forest managers and workers of their social responsibility in minimizing the loss of biological diversity and in protecting the environment during forest harvesting.

3.2 Furthermore, it has also assisted in focusing research efforts where knowledge is still lacking and deficient, and in particular, the changes in biological diversity and water quality of logged-over production forests, and their long-term effects on the resilience and integrity of the forest ecosystem.

3.3 Nevertheless, there is a need to review and refine the criteria and indicators periodically to reflect new knowledge about the functioning of forest ecosystem, anthropogenic intervention on the forests whether planned or unplanned, and the changing needs of society for forest goods and ecosystem services.

3.4 The use of criteria and indicators for sustainable forest management has provided the confidence and basis for the respective State Forestry Departments in Peninsular Malaysia to have their forests certified under the MTCS. It has also enabled the Departments to effectively engage in the development of the Malaysian Timber Legality Assurance System (Peninsular Malaysia) under the EU FLEGT-VPA process.

3.5 However, it is imperative that the revenue generated from the production of forest goods and ecosystem services is adequate to provide the much needed financial resources to enable the State Forestry Departments to fully implement criteria and indicators for sustainable forest management. This is in view that current economic valuation of forest resources which is based on the monetary cost of extraction and distribution has often resulted in inadequate incentives for sustainable resource use. As such, market prices of forest products should fully reflect their full cost, including environmental and social costs, especially certified timber products that are sourced legally from sustainably managed forests.

3.6 In addition, the use of criteria and indicators for sustainable forest management in Peninsular Malaysia will only succeed if the Permanent Reserved Forests are not excised for non-forestry uses by the respective State Governments, for example, agricultural and infrastructural development, as provided for in the National Forestry Act, 1984.

#### **4.0 Needs for further development and promotion**

4.1 The linkages between criteria and indicators used to assess, monitor and evaluate sustainable forest management at the national level and those at FMU need to be further elaborated to demonstrate their synergetic effects. This in view that the overall sustainability of managing a nation's forests does not only depend upon actions taken at the national level, such as legislation, land-use planning etc., but also substantially upon the quality of management of the aggregate of all forest management units.

4.2 The qualitative or descriptive indicators used for assessing, monitoring and reporting progress towards the achievement of sustainable forest management in Peninsular Malaysia should be further developed into quantitative indicators based on research, taking into account that in some instances this is not possible or would prove to be too expensive to implement.

4.3 There is a need to further develop and establish effective coordination mechanisms at all levels for improved inter- and intra-agency collaboration so as to enhance the timely flow of information and/or data required by the indicators.

4.4 It is also imperative that periodic and regular training programs be organized for forest managers and logging operators to update them on the latest advances in the use of forest sustainability criteria and indicators in assessing, monitoring and evaluating sustainable forest management practices, especially at the field level, including the costs and benefits in using them.

4.5 From the perspective of using criteria and indicators for assessing, monitoring and reporting of sustainable forest management, forest sustainability criteria and indicators have provided a very efficient way to structure data collection for assessing progress towards the achievement of sustainable forest management in Peninsular

Malaysia, including the identification of areas where information and data are still lacking.

4.6 In Peninsular Malaysia, criteria and indicators for sustainable forest management have been used to provide guidance in formulating forest development programs under each of the five-year Malaysia Plans that will further enhance the management, development and conservation of the forest resources in Malaysia, including research and capacity building activities.

4.7 They have also been used to facilitate policy dialogues with the timber industries on their role and responsibilities, as well as to secure their commitment to effectively implement the criteria and indicators as formulated in the MC&I (Natural Forest).

## 5.0 Recommendations on further development and use

5.1 To further enhance the use of forest sustainability criteria and indicators as a framework for assessing, monitoring and reporting on progress towards the achievement of sustainable forest management at both the national and FMU levels, a scorecard that offers quantitative ratings of the indicators used should be developed. This will further strengthen the framework and fulfill the principles of transparency and accountability in using forest sustainability criteria and indicators as a monitoring and evaluation tool.

5.2 Quantitative indicators to assess and monitor the effect of forest management on forest biological diversity, soil, water and carbon storage, including measures on soil productivity within the forest area, should be further developed. This is in view that they will contribute to mitigating climate change and in ensuring forest ecosystem resilience, taking into account the need for procedures and methodologies for data collection which should be developed through further research, and the costs involved.

5.3 To further improve the efficiency in implementing forest sustainability criteria and indicators in Peninsular Malaysia, computer-based tools should be developed to simplify the task of monitoring, analysis and in generating periodic synthesis reports on progress towards achieving sustainable forest management.

5.4 There is an urgent need to intensify outreach programs to increase public awareness, especially the print and electronic media, on the importance of sustainable forest management forest practices in sustaining a viable environment for humankind. It should also include further elaboration on the categories of forest lands that are subjected to the application of criteria and indicators for sustainable forest management as there is still a perception that forest lands that are not earmarked for permanent forestry uses are also required to be managed under sustainable forest practices.

5.5 Criteria and indicators for sustainable forest management should include indicators that address landscape level forest values in an integrated way to maximize land uses and the users of the land, including forest land. This may even result in the loss of forest land. However, if the loss is well-understood by all the relevant stakeholders and the results are from an informed, open, inclusive and equitable process then it should be accepted by all parties.

5.6 In this regard, the need for socio-economic development, especially among the indigenous people and local communities, in the overall context of food security should

be addressed, as well as animal-human conflict in using the forest resources sustainably.

5.7 Outcomes from the application of forest sustainability criteria and indicators, including their impacts at the landscape level, such as on the biological resources, soil and water, and the social and economic contributions, should be conducted and widely disseminated to the public. This will further strengthen political support for the use of criteria and indicators for sustainable forest management, especially in providing the much need financial resources.

5.8 The experience gained in the application of criteria and indicators for assessing, monitoring and reporting forest sustainability in Peninsular Malaysia could be adapted and used by the other sectors of the economy in Malaysia, for example, the agriculture and fishery sectors, as well as a model in sustainable development by harmonizing environmental, social and economic policies.

## **6.0 Conclusions**

6.1 Using the ITTO criteria and indicators for the sustainable management of natural tropical forests, the Government of Malaysia had in 2010 submitted a report to ITTO for the preparation of its report on the “Status of Tropical Forest Management 2011”. The report noted that Malaysia is one of the five countries that included Brazil, Gabon, Guyana and Peru that have made significant progress towards sustainable forest management.

6.2 The continuous monitoring and learning process in using criteria and indicators for sustainable forest management in Peninsular Malaysia has enabled the State Forestry Departments to put in place adaptive forest management practices. Through these practices, forest managers and decision-makers will be able to assimilate new information and knowledge as it becomes available and correct policies and practices before irreversible damage is done to the forest ecosystem, although they will involve time-consuming consultative processes and careful coordination of activities among governments and institutions, both at the national and state levels.

**Use of forest criteria and indicators as a framework for guiding implementation of forest policies, plans and programs in the Philippines<sup>10</sup>**

**1.0 Introduction**

1.1 The Forest Management Bureau (FMB) is the forestry agency in the Philippines under the Department of Environment and Natural Resources (DENR) which is mandated by law to provide policy advice to the DENR in terms of forest resource management, development, conservation and protection of the country's forests. The FMB likewise performs field investigation of reported illegal logging nationwide covering from timber extraction to processing and retail. Currently, the FMB is undergoing rationalization pursuant to Executive Order No. 366 issued in 2004, to streamline its functions for effective and efficient delivery of professional forestry services.

1.2 The FMB was reorganized in 1987 pursuant to Executive Order No. 192 under the Philippine Freedom Constitution of 1987. Its original predecessor is recorded officially as early as June 1863 through a Royal Decree creating the *Inspeccion General de Montes* under the Spanish Regime that gave rise to the forestry service in the country. It became the Forestry Bureau on 14 April 1900 through the General Order No. 50 issued by the U.S. Military Governor in the country when the Philippines was ceded by Spain to the U.S. through the Treaty of Paris in 1898. In September 1901, it was renamed as the Bureau of Forestry and placed under the Department of Interior. In November 1916, it was eventually transferred to the Department of Natural Resources, controlling the management and development of the country's forest resources, including management and protection of national parks. But the Park and Wildlife Office and the Reforestation Administration were likewise created in the 1950s. Eventually, it was transformed into the Bureau of Forest Development (BFD) in 1975 pursuant to the Presidential Decree No. 705 (May 1975) - the Revised Forestry Code of the Philippines or the basic forestry law of the land. The Parks and Wildlife Office and the Reforestation Administration were merged with the BFD.

1.3 Other relevant national laws are the Logging Moratorium on the Harvesting of Trees in the Natural Residual Forests pursuant to Executive Order No. 23 (February 2011); Promotes Sustainable Forest Management in the Philippines (Executive Order No. 318, 2004); Chainsaw Act of 2003 (Rep. Act No. 9175 and its implementing rules and regulations, 2003); New Law on Forest Charges including prohibition in the cutting of all mangrove trees (Rep. Act No. 9161, 1996); Community-Based Forest Management, Industrial and Socialized Forest Management Program (1999); Forest Land Grazing (2004); and the Special Land Uses in Forest Land (2004) that falls within the ambit of the forestry sector including sustainable forest management in the Philippines.

1.4 The FMB implements national forestry programs on a nationwide scale e.g. Forestland Boundary Delineation (2005); National Greening Program (2011); Integrated

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<sup>10</sup> Prepared by Raul M. Briz, Senior Forest Management Specialist, Forest Management Bureau (FMB), Philippines.

Natural Resources and Management Project (2013); and Forestland Management Program (2013). The newly approved Five-Year National Forest Protection Program of the DENR is implemented in 2015 wherein a reliable timber tracking system with full compliance with the back-to-the-stump requirement will be in place in 2017.

1.5 One significant project that FMB had implemented was the International Tropical Timber Organization (ITTO) supported Project on the Philippine Criteria and Indicators (PC&I) for Sustainable Forest Management (SFM) that developed a monitoring and assessment tool to determine and measure the progress towards SFM at the national and forest management unit (FMU) levels. The PC&I system and the Complementary Audit System and Procedures were officially used in July 2007 as a tool for assessing the performance of tenure instruments in the country.

## **2.0 Experiences on the use of forest sustainability criteria and indicators**

2.1 The experiences described herein refer to the use of the PC&I system in the Philippine setting. In terms of policy implementation, the use of the PC&I system is still limited to assessing the performance of tenure holders which will enable the DENR top management to render a fair and objective decision including the imposition of appropriate sanctions and penalties for violations of forestry laws and regulations. The numerical ratings used in the audit system served as the objective result of using the PC&I system.

2.2 In terms of forestry plan, the Updated Climate Resilient Philippine Master Plan for Forestry Development, reformulated in 2014, has clearly outlined the standards that have been laid down in the PC&I for achieving SFM which call for forest certification in the Philippines. Moreover, the preceding 2003 Revised Master Plan for Forestry Development has also adopted various strategies to achieve SFM over a period of five years.

2.3 In terms of programs and projects, the PC&I system has been used in monitoring performances of tenure holders, such as timber companies engaged in industrial forest management in forest lands, and community-based forest management projects.

## **3.0 Lessons Learned**

3.1 The lessons learned that are discussed here simply refer to the use of the PC&I system. In coming up with a functional and working PC&I system, lessons learned can be grouped into developmental and operational issues. First, the most crucial lesson from using the system was the manner and process in holding nationwide multi-stakeholders consultations. The task of consolidating the varied interests of the stakeholders of all sectors in the forest industries or wood-based industries, tenure holders, academia and research institutions, association of tree farmers, and indigenous peoples who are holders of CADCs, CADTs, CALCs, & CALTs (Certificates of Ancestral Domain Claims/Titles/Land Clams/Land Tiles) was challenging. The expectations always run high from different stakeholders that are mainly concerned with net economic benefits since the system was always equated with recovering high transaction costs. Nonetheless, the highly participative process of multi-stakeholder consultations did give an excellent impact that help generate greater awareness and interests on the need for the PC&I system and audit procedures for SFM.

3.2 The civil society in the Philippines that are highly conscientious and progressive minded are sometimes divided on the use and applicability of the PC&I system, including group of non-government organizations that are critical of the environment. Obviously, they have different understanding, backgrounds and aspirations, often with diverse interests and sometimes have their own political agenda based on the prevailing political climate in the country.

3.3 Another lesson is the perceived seeming weak institution when it comes to providing guidance in implementing and overseeing the progress towards SFM due to the requirement for technical competency to implement the PC&I system on the ground.

3.4 Lastly, is the level of understanding of the system by FMUs which was initially weak or limited if the system were to be adopted by the government in its role as forest regulator. Finally, the ITTO's set of criteria and indicators for sustainable management of natural tropical forests was the most appropriate assessment tool for tropical forests and as such the Philippines has adopted it to develop the PC&I system.

3.5 On the operational side, the field manual developed under the PC&I system was considered cumbersome with complex set of structured questionnaires requiring comprehensive training of technical personnel tasked to gather the data, complete the questionnaire and analyse the information. The use of multiple methods of teaching the PC&I system combining lectures, group discussions, and actual hands-on and field audit exercise in actual FMU field audit has provided a clear direction towards SFM.

3.6 Moreover, the appreciation and acceptance of the PC&I system by FMUs does not mean full capacity to implement and adopt the system for SFM due to so much technicalities in understanding even the basic forestry concept. This is made more difficult due to the lack of data and even methodology of gathering forestry field data. The terminologies used in the PC&I system are new, highly technical, and are still not found or stated in existing forestry policies.

3.7 Finally, the demand for local wood requirements by the wood industry will certainly influence the prices of raw wood materials even in the current situation. But with certification scheme on both FMUs and the wood supply chain, prices of raw wood materials will certainly go up. Thus, intensive information and education campaign is required to increase awareness on the advantages and net benefits of the system, certification scheme, etc.

#### 4.0 **Needs for further development and promotion**

4.1 The PC&I system is a tested assessment tool available for policy dialogue to advance forest certification in the country as well as indicated in the 2003 Revised Master Plan for Forestry Development and the 2014 Updated Climate Resilient Philippine Master Plan for Forestry Development. In the process, it increases and raises awareness of different stakeholders in the wood industry sector, from the ordinary private tree farmers to the wood traders and businessmen. Moreover, the system has been used by tenure holders in preparing their comprehensive development and management plans that are required before they can start actual operations on the ground.

4.2 The PC&I, especially the indicators, are not yet fully incorporated in all forestry guidelines at the moment. Hence, gathering data and compliance with such indicators like carbon sequestration, measure of carbon storage in forest stand, biodiversity, rare and threatened species, forest research and education, etc. are not completely captured even for base-lining purposes. This has resulted in difficulty to monitor changes and trends in forest management at the FMU level.

4.3 At the national or program level, the Philippines is using the system for monitoring, assessment and reporting in forest resources management. It hopes to use the system to mitigate climate change for environmental consideration, but still within the parameters of SFM as it had been designed.

4.4 For decision purposes, the system was found to be an effective tool in rendering fair and objective decisions in terms of sanctions or penalties to be imposed on tenure holders. Finally as already mentioned in the previous discussions, the Philippines will steadfastly use the system as a framework and foundation for developing certification standards, and in applying sustainability principles, criteria and indicators.

## **5.0 Recommendations on further development and use**

5.1 One concrete step that is currently undertaken is in revising and using the PC&I system as the framework and foundation for developing forest certification standards for managing the forests for production of timber and associated products, both from the natural forests and plantations. The Philippines strongly believes that such system must graduate from a mere tool to assessing progress to SFM for corrective measures to measuring full compliance and adherence to SFM through the use and adoption of a set of national forest certification standards. This will render the system's full application to forest sustainability.

5.2 The next step is the drafting and promulgation of a new law to be enacted by the Philippine Congress or through the Executive Department, a presidential issuance of a National Forest Certification in the country. This will be the legal basis for preparing the corresponding implementing rules and regulations of the system. This will include institutional or structural organization that will oversee the enforcement of SFM mechanism, accreditation of third party forest certifiers and auditors, capacity building for assessors and auditors, etc. This will then translate the standards into a working mechanism to effectively and efficiently implement national forest certification in the Philippines. The Philippines should be able to effect transition of a working and functioning National Governing Board that will oversee and supervise national forest certification in the country.

5.3 The role of FMB as staff organization of the DENR will provide the necessary guidance in the process of implementing certification schemes for SFM.

## **6.0 Conclusions**

6.1 The technical preparation in coming up with the PC&I system for SFM is transparent, participative, well deliberated and studied. It has undergone substantial multi-stakeholder consultations carried out on several occasions nationwide. Hence, the PC&I system was designed for the Philippine setting by addressing the geographic peculiarities, forest types, and traditional differences of indigenous peoples or

communities in forest lands. This has resulted in social acceptability of the system at the grassroots level and environmental sustainability as a whole.

6.2 The system covers seven criteria, namely, Enabling Conditions for SFM that deals with legal basis and other policies; Extent of Condition of Forests dealing with forestland boundaries and delineation; Forest Ecosystems Health; Forest Production; Biological Diversity; Soil and Water Protection; and Economic, Social and Cultural aspects; that capture almost all forest management parameters including forest plantations, and even partially the legality component.

6.3 Technically, the Philippines believes that the PC&I system should move towards forest certification which is the ultimate goal in forest management. Thus, actions have been taken to revising the system as the foundation of an assessment tool for forest certification and for full compliance to SFM for both the FMU and national levels. The Philippines is looking at a system that is fully aligned with internationally accepted forestry standards or with other globally recognized forest certification schemes such as the Program for the Endorsement of Forest Certification schemes (PEFC). Hopefully, the system will adhere to the demand of regional or international markets to trade timber and timber products that are sourced from sustainably managed forests as outlined in the ASEAN Guidelines on Phased-Approach to Forest Certification and the impending economic integration of ASEAN at the end of 2015.

6.4 Currently, there is no production forests (state-owned) covered by any tenure instrument that have been certified using any system. This also holds true with plantations both in public or state lands and private titled lands. Although, the Philippines did have in 1996 one tenured area (community-based forestry) in Mindanao that was forest certified by undergoing the rigorous process of assessment using an international market developed certification scheme, after five years, it was not able to afford to the same process for renewal due to exorbitant cost.

6.5 Today, forest certification is gaining acceptance from the forest or wood industry sector ranging from tenure holders in forestlands or state lands, private sectors, and wood traders, specifically those involved in wood trading, wood processing and the furniture industries. They are already aware and understand the necessity and importance of forest certification so that they can source wood materials from sustainably managed forests, as well as ensure that they are legally sourced. Those in the downstream wood industries that do not have FMUs are now strongly considering subscription and adoption of chain of custody certification schemes as part of market demand for timber and timber products that are not only from sustainably managed forest, but also from legal sources even as they moved or changed hands along the supply chain. Therefore, the PC&I system and its audit procedures simply raise the readiness of the country to pursue higher opportunities together with the responsibilities and commitment for nationwide enforcement of SFM standards.

**Use of forest criteria and indicators for forest management certification under the Malaysian Timber Certification Scheme (MTCS)**

**1.0 Introduction**

1.1 The Malaysian Timber Certification Council (MTCC), previously known as the National Timber Certification Council (NTCC), was established in October 1998 as a company limited by guarantee, and started operation in January 1999 as the national governing body to operate the Malaysian Timber Certification Scheme (MTCS). In this regard, the MTCS is a voluntary scheme which operates throughout the three regions in Malaysia, namely, Peninsular Malaysia, Sabah and Sarawak, and is endorsed by the Programme for the Endorsement of Forest Certification schemes (PEFC) since 1 May 2009.

1.2 It is a non-profit company managed by a Board of Trustees comprising the Chairman and ten members, with two members each representing the timber industry, environmental non-governmental organizations (NGOs), social NGOs, academic and research and development institutions, and government agencies. The Board decides the overall policy and direction in carrying out the MTCC's activities.

1.3 The Board has established a Dispute Resolution Committee (DRC), an independent committee, to deal with disputes which are submitted to MTCC for investigation and resolution.

1.4 Prior to 1 July 2008, in addition to being the national governing body, MTCC also processed applications for both forest management certification and chain of custody certification, arranged for third party audits to be carried out by registered independent assessors, and was responsible for the issuance, suspension and withdrawal of certificates.

1.5 However, with effect from 1 July 2008, MTCC only plays the role of the National Governing Body (NGB) for the MTCS, while the independent assessors become the Certification Bodies (CBs) who will receive and process the application for certification, conduct the assessment and make the decision to award the Certificate for Forest Management and/or Certificate for Chain of custody. The CBs are required to be accredited to the Department of Standards Malaysia, the national accreditation body (AB) in Malaysia. The accredited CBs are required to apply to MTCC to become PEFC-notified CBs to enable them to issue accredited certificates recognized by MTCC and PEFC.

1.6 The establishment of a national certification body in Malaysia was necessitated by the raising demand from environmentally and socially sensitive markets in Europe and North America in the 1990s for timber and timber products sourced from sustainably managed forests. Companies in the key timber importing markets of Malaysia were starting to request for certified products mainly due to pressure from environmental and social NGOs. Furthermore, as one of the major exporters of tropical timber and timber products to the world market there was a need for Malaysia to have a coordinated approach to timber certification.

1.7 Hence, after a series of discussions among government departments, forestry and timber agencies, timber trade associations, environmental NGOs, academic and research institutions, as well as the national standards organization, it was decided that MTCC be established to oversee timber certification in Malaysia so as to meet the market demand for certified timber products. This would also assist in ensuring the sustainable management of Malaysia's forest resources, taking cognizance of Malaysia's commitment to the *ITTO Year 2000 Objective* where its members have agreed to progress towards achieving sustainable management of tropical forests and that trade in tropical timber will be sourced from sustainably managed forests by the Year 2000.

1.8 In this regard, MTCC has been operating the MTCS using a phased approach due to the challenges encountered in managing the complex tropical forests as compared to temperate and boreal forests. The standard initially used for forest management certification of natural forests at the forest management unit (FMU) level was the *Malaysian Criteria, Indicators, Activities and Standards of Performance for Forest Management Certification* [MC&I (2001)] comprising 6 criteria and 29 indicators which was developed from the 1998 *ITTO Criteria and Indicators for Sustainable Management of Natural Tropical Forests*.

1.9 During the second phase of implementation of the MTCS beginning late 2005, the standard used was the *Malaysian Criteria and Indicators for Forest Management Certification* [MC&I (2002)]. It contains nine principles, 47 criteria and 96 indicators and was developed using the Principles and Criteria of the Forest Stewardship Council (P&C, FSC). In line with international practices and the standard setting process for the development of timber certification standards adopted under the MTCS, the MC&I (2002) was subjected to a review process beginning April 2009. The revised standard, the *Malaysian Criteria and Indicators for Forest Management Certification (Natural Forest)* [MC&I (Natural Forest)], was finalized in September 2011 and became applicable as of 1 July 2012 for assessing natural forest management certification at the FMU level in Malaysia. The standard contains nine principles, 47 criteria and 97 indicators. To further enhance assessment, especially by CBs, verifiers were formulated for each of the indicators.

1.10 As of November 2014, an area of 4.65 million ha of natural forests or 32% of the total Permanent Reserved Forests in Malaysia have been certified and issued with *PEFC Certificate for Forest Management (Natural Forest)* involving ten FMUs.

1.11 MTCC also operates the *Malaysian Criteria and Indicators for Forest Management Certification (Forest Plantation)* [MC&I (Forest Plantation)] since February 2009. It contains ten principles, 55 criteria and 106 indicators and was developed using Principle 10 of the P&C, FSC as a template. As in the case of the MC&I (2002), the standard was subjected to review which was completed in late 2014. The revised standard comprising ten principles, 55 criteria and 108 indicators, and with verifiers formulated for each indicator, is expected to enter into force in 2015. As of November 2014, two forest plantations in the state of Sarawak covering a total area of 11,807 ha are in the process of being PEFC-certified.

1.12 For chain of custody certification (CoC), the standard initially used by MTCC beginning in October 2001 was the *Requirements and Assessment Procedures for Chain of custody Certification (RAP/COC)*. In February 2004, the standard was reviewed

to take into account the latest international development and to incorporate best practices in chain of custody certification and was re-issued as two separate documents, namely, the *Requirements for Chain of Custody Certification (RCOC)* and the *Assessment Procedures for Chain of Custody Certification*.

1.13 However, since the endorsement of the MTCS by PEFC in 2009, MTCC has been adhering to the PEFC requirements for chain of custody certification. Currently, MTCC is using the PEFC ST 2002:2013 *Chain of Custody of Forest Based Products - Requirements* for chain of custody certification under the MTCS. This standard came into force on 24 May 2013 and has incorporated the Due Diligence System (DDS) to assure that entry of materials from “controversial sources” into the supply chain is avoided. This will further ensure that PEFC-certified timber products originate from legal and sustainable sources and are aligned with regulatory requirements such as the European Union Timber Regulation (EUTR) that came into force on 3 March 2013. In this regard, a total of 299 timber companies in Malaysia have been issued with the PEFC Chain of Custody certificates as of November 2014.

## **2.0 Experiences on the use of forest sustainability criteria and indicators**

2.1 The development of the MTCS needs to fully involve the timber industry, social and environmental NGOs, academic and research institutions, and government agencies, especially the State Forestry Departments in Malaysia which manage the forests. This is in view that forest lands in Malaysia are under the jurisdiction of the respective States as provided in Article 74 (2) of the Malaysian Constitution. This will ensure that the process adopted in developing the timber certification scheme is transparent and accepted by all interested parties, as well as the international community.

2.2 To ensure inclusiveness in the development of the MTCS through multi-stakeholder consultation that comprises four main groups, namely, the economic, environmental and social groups, and relevant government agencies which represent the forest owners, financial support was provided by MTCC to enable the participation of the smaller NGOs.

2.3 The MTCS has assisted Malaysia to ensure continued market access and maintain its market share in the trade in tropical timber products. In some instances, it has also assisted Malaysia to gain access to new markets that demand products that are sourced legally and/or from sustainably managed forests.

2.4 In this context, it is pertinent that CBs should have high and unquestionable integrity as the credibility of any certification scheme using forest sustainability criteria and indicators will greatly depend on them, as well as the transparency of the process itself. This is in view that as timber certification is an instrument used to confirm the achievement of certain predetermined performance standards of forest management in a given forest area at a given point in time, the granting of certificates by the CBs in reality is based on the expectation that management activities that ensure that the forest is sustainably managed would be undertaken throughout the rotation of the forest stand which may not be the case. At the extreme, forest owners could harvest all the certified forests and sell every piece of the timber and lose the certificate after the money has been earned and that the certificate is no longer needed nor required. Hence, this is the

very reason that government policies and legislation have to be in place and enforced to ensure that forest owners are committed to long-term forest sustainability.

2.5 The use of forest sustainability criteria and indicators in the MTCS has strengthened sustainable forest management practices in Malaysia, besides providing a more balanced approach to resource use, between economic, social and environmental needs, and in safeguarding the welfare of forest workers.

2.6 However, the cost to promote the acceptance of the MTCS by the environmentally sensitive markets and in government procurement policies, including having the scheme endorsed by PEFC has been high. This included Minister-led missions to a number of EU Member States during the early years of implementation of the MTCS by MTCC.

### **3.0 Lessons learned**

3.1 The process of facilitating the multi-stakeholder consultations is very challenging as it involves managing a very diverse group of organizations and individuals representing different interests, with often varying levels of understanding and expectations from the certification process using forest sustainability criteria and indicators.

3.2 For the process to be effective and successful there is a need to build understanding and trust between the stakeholder groups and be able to accommodate the different views and proposals in a balanced manner through a spirit of compromise, and at the same time to ensure that the MTCS is pragmatic and auditable.

3.3 In this context, MTCC has encountered groups and individuals who had unrealistic expectations, such as expecting the MTCS to change the existing laws, for example, legislation governing land ownership. In addition, there were some parties who could not agree for the adoption of a phased approach in implementing the MTCS. This had led to the withdrawal by the representative from WWF-Malaysia in January 2002 from participating as a Board Member of the MTCC.

3.4 For the MTCS to be effectively implemented, capacity building of the various actors ranging from potential and registered auditors to staff of the Forestry Departments as forest owners, especially the field staff, and those from the logging and timber industries on the requirements for forest management certification and chain of custody certification is needed. Towards this end, MTCC had organized, among others, a Training Program on Chain of Custody Certification and the Implementation of the MTCC Timber Certification Scheme in August and November 2001 respectively, as well as an Auditor Training Program on Forest Management Certification in September 2002 in its effort to create a pool of trained personnel to conduct timber certification. MTCC continues to provide annual training programs for new auditors of the various CBs on the requirements of the certification standards, as well as to fulfil the conditions laid under the accreditation requirements by the AB. Periodic briefing sessions are also conducted to update staff of the various State Forestry Departments and timber companies on the requirements of the MTCS standards.

3.5 In the initial years of operating the timber certification scheme, there was a need for government involvement to support the MTCC. This was necessitated by the financial requirements to execute the scheme in view that it was not able to finance itself.

3.6 The development of the MTCS using criteria and indicators through multi-stakeholders dialogues and consultations has enhanced a better understanding among the many stakeholders or interested parties, especially the environmental and social NGOs, on the need to balance protection and conservation of the forest resources with economic uses. This is in view that the wealth generated has enabled many developing countries, including Malaysia, to develop economically and socially in their quest to achieve sustainable development.

3.7 Nevertheless, one of the major risks to the future of the MTCS in using forest sustainability criteria and indicators is the proliferation of forest management certification schemes using different sets of criteria and indicators to define sustainable forest management as a result of different level of socio-economic development of countries and their existing cultural and traditional values.

3.8 Other risks include new aspects to be addressed in forest management certification to meet changing societal needs, such as the increasing role of forests in mitigating climate change and in the conservation of forest biological diversity for the biotechnology industries. They will further exacerbate the complexity and costs in undertaking timber certification.

3.9 The use of new and technologically engineered wood substitutes may result in the price of timber and timber products to fall, and, hence the returns from the sale of such products may not be able to support timber certification schemes developed from forest sustainability criteria and indicators.

3.10 In addition, if the price paid for certified timber and timber products does not commensurate with the cost in undertaking forest management certification, including chain of custody certification, then there is a high possibility that forest owners and the timber industry will not be willing to use forest criteria and indicators for forest management certification.

#### **4.0 Needs for Further Development and Promotion**

4.1 It is pertinent to further empower the social stakeholders, especially the indigenous peoples and forest dwellers, on the use of forest sustainability criteria and indicators for forest management certification through capacity building programs so that they could directly represent themselves and present their interests and concerns during the development of certification standards. Then the need for third parties or 'champions' to represent them and who are not part of their communities will not be required as their visions and goals may not be aligned to the interests of the communities.

4.2 There is a need to further elaborate some of the verifiers developed for the indicators so as to provide additional clarity and ensure consistency in the interpretation on how the verifiers will be assessed during the certification process between the auditors and forest owners, and perhaps, a compendium should be prepared.

4.3 As a result of changing societal demand for forest goods and services and the rapid development of how best forest should be managed for sustainability through research and lessons learned from implementation, it is imperative that continuous and regular training programs be organized for all stakeholders to enable them to not only understand, but also to be able to incorporate new concept of sustainable forest management using criteria and indicators in forest certification schemes.

4.4 From the perspective of forest management certification, criteria and indicators for sustainable forest management are most useful to guide forest management practices ranging from the preparation of forest management plan, forest harvesting, forest ecological functions protection, including biological diversity conservation, to monitoring, assessing and reporting on the progress towards the achievement of forest sustainability.

4.5 They are also very useful in structuring sustainability assessments and reporting of natural resource management, and in particular natural and planted forests, including rubberwood plantations owned by smallholders in Malaysia.

4.6 In addition, forest sustainability criteria and indicators would provide a platform for structured dialogue and planning the steps to be taken by forest owners who wish to have their forests certified. They will also guide them in providing the necessary budget and administrative process required for forest management certification.

## **5.0 Recommendations on Further Development and Use**

5.1 It is felt that current criteria and indicators for forest management used as a framework for developing forest certification scheme for the production of timber and timber products should place greater emphasis on this aspect vis-à-vis those related to addressing environmental and social concerns.

5.2 As forest management certification is usually undertaken at the FMU level, it is pertinent to ensure that values of forest are also enhanced or at least maintained at the landscape level. In this context, indicators used in forest management certification at the FMU level should include, perhaps, some indicators that explicitly address forest values outside the FMU that is being certified.

5.3 Regional or sub-regional criteria and indicators for forest management should be formulated or existing ones used as frameworks to develop forest certification schemes as they are more appropriate in reflecting the conditions of countries in the given region or sub-region. This is in view of their environmental and socio-cultural similarities even though they are at different level of economic development, for example, the Association of Southeast Asian Nations (ASEAN).

## **6.0 Conclusions**

6.1 As timber certification is an attempt to link trade, particularly international trade, to sustainable forest management, concern has been expressed that this may give consumers the impression that unlabelled products, including those that have yet to be assessed, have been produced in an environmentally unsustainable way and thus discriminating against their trade in the global market place.

6.2 Nevertheless, it has been acknowledged that forest certification has provided a market-link tool to promote and encourage effective implementation of sustainable forest management, although the area of tropical forest certified is insignificant as it is estimated at only 16 million ha.

6.3 With greater support and co-operation from stakeholders, international community and the business fraternity, sustainable forest management and certification will further enhance the use of forest sustainability criteria and indicators.

**Use of forest criteria and indicators as a framework for project design and monitoring, including land use planning and agroforestry<sup>11</sup>**

**1.0. Introduction**

1.1 The Environmental Science for Social Change, or ESSC, is a Jesuit environmental research organization registered in the Philippines as a non-stock, non-profit organization since 1997, and is a scientific institute registered under the Philippine Department of Science and Technology. Its early work goes back to the late 1980s as the Environmental Research Division of the Manila Observatory.

1.2 ESSC's mission is to contribute to a critical and holistic understanding of the dynamic between the biophysical and socio-cultural processes in collaboration with its partners for the effective management of the environment for human development. This mission is framed within a set of broad work programs that formed the basis for developing institutional agenda and responding to needs. These programs are watershed integration, forest cover update, developing disaster resilience, assisting community resource management and culture, tracking mining, ecological services and climate change, and strengthening the ecological formation and networking among Jesuit people in the Asia-Pacific region.

1.3 ESSC's work on forest cover updating and promotion of community mapping in participative resource management has been the basis for numerous relationships within the development work sector. ESSC is sought for inputs in national environmental discussions by the media, the academe, the Bishops'-Businessmen's Conference, international development agencies and financing institutions, environment groups, and the business sector, among others. ESSC also supports operations of the Apu Palamguwan Cultural Education Center in Mindanao and the Asia Forest Network. The examples cited in this paper draw from the collaborative initiatives of these institutions.

1.4 The reasons for using forest sustainability criteria and indicators by ESSC is to enable it to track sustainability principles, criteria and indicators used in national, regional and global processes. The purpose is to use appropriate elements in these processes to develop the design and monitoring framework for its projects, including those with land use planning and agroforestry components.

1.5 Applying the criteria and indicators of these global processes at the local level helps connect people in the margins of society and the global. Connections are made through testing the applicability of these criteria and indicators at the local level, and providing feedback to the national, regional and global levels about their relevance to the local and sub-national levels.

1.6 Forest-related sustainability indicators are important to ESSC mainly because:

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11 Prepared by Rowena Soriaga, Program Development Specialist, Environmental Science for Social Change (ESSC). Philippines.

- (i) ESSC is called to work with communities in the margins of society, who often are greatly dependent on forests for various ecological services;
- (ii) the watershed perspective is a key research aspect in all projects, and forests are critical to understanding this perspective; and
- (iii) ESSC's mission to understand the dynamic between the biophysical and socio-cultural processes drives it to look into forest-people interrelations.

1.7 Examples of links between human development and sustainability frameworks guiding ESSC projects and forest-related criteria and indicators<sup>12</sup> include:

(i) *Our Environmental Way of Proceeding*: Its seven principles connect diverse efforts of Jesuit institutions in the Asia-Pacific region in responding to “the challenge of living sustainably in the world” (Principle 7). Many of these efforts work with the social and cultural aspects, and connect with governance and economic mechanisms that influence enabling conditions for sustainable forest management.

(ii) *Millennium Development Goals*: Environmental sustainability (Goal 7) targets to integrate principles of sustainable development into country policies and programs and reverse the loss of environmental resources (Target 7.A) and reduce biodiversity loss (Target 7.B), while reducing extreme poverty and hunger (Goal 1), delivering basic social services (Goals 2, 4-6) and building capacities (Goals 3, 8). Discussions under the emerging Sustainable Development Goals (forest-related targets under Goals 6, 8 and 9).

(iii) *Human Development Index*: This index is a summary measure of average achievement in key dimensions of human development, namely, a long and healthy life, and being knowledgeable and have a decent standard of living. The index helps to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country, not economic growth alone. This index aids civil society in raising questions about national policy choices, such as those affecting forests and the people dependent on them.

## 2.0 Experiences on the use of forest sustainability criteria and indicators

2.1 Through the logical framework approach, ESSC draws from various sustainability indicator sets such as those mentioned in the previous section, including forest-related criteria and indicators. Forest-related criteria and indicators are used during project design, especially in selection of sites for research and implementation, through spatial analysis of the interrelation between the socio-cultural and biophysical processes, including those in forest ecosystems. This section describes experience from projects on how criteria and indicators are used for sustainability assessments and reporting in other sectors or across sectors.

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<sup>12</sup> For example, the Criteria and Indicators for Sustainable Forest Management used in ASEAN, Philippines and FAO Global Forest Resources Assessment.

(a) *Project Design and Monitoring*

2.2 The use of forest criteria and indicators in project design and monitoring is depicted here based on experience from two projects, namely, the Community Forest Management Support Project for Southeast Asia, and the Taking Stock of Community Forest Enterprises involved in Timber Commercialization in Asia.

2.3 *Community Forest Management Support Project (CFMSP)* aims to improve and expand community forest management policies and programs in Southeast Asia. In view of this overall objective, Asia Forest Network collaborated with partners working at the regional, national, and sub-national levels in five countries (Cambodia, Indonesia, the Philippines, Thailand, and Vietnam), including ESSC. Over 53 months, CFMSP supported 21 organizations from five countries through a blend of small grants, technical assistance, regional field workshops, regional policy meetings, and cross-country exchange visits.

2.4 *Taking Stock of Community Forest Enterprises involved in Timber Commercialization (CFE)* is a regional research project to understand if and how community forest groups are engaged in timber commercialization, and conditions that enable or impede their engagement. The study focused on national and field level experience from three Asian countries.

2.5 In both these projects, forest sustainability criteria and indicators were used to aid regional analysis. CFMSP tracked experiences of local communities living on land that government designated for various forest functions (production, protection, socio-economic). In the process, quantitative and qualitative baseline data were gathered and analyzed for a number of indicators under the seven criteria for Global Forest Resources Assessment<sup>13</sup>, and captured in the project's synthesis publication, *Communities and Forest Stewardship: Community Forest Management Trends in Southeast Asia*.

2.6 CFE used the following forest-related criteria and indicators as basis for country selection using available data from the 2010 Global Forest Resources Assessment (GFRA), namely, (i) forest extent; (ii) existence of effective transfer of rights to communities for management of public forests; (iii) existence of enabling environment (policy, legal, institution) conducive to the commercialization of timber from CFE; and (iv) data availability on community forestry and on the commercialization of timber from community forest enterprises. While comparative data are available for forest extent and forest policy and legal framework from GFRA 2010, data are sparse for indicators relating to community forestry, and much less for the enterprises where they are involved

2.7 The use of sustainability criteria and indicators at the sub-national level has helped local governments to monitor whether their development programs are going to the areas that need them. It has also enabled local government and line agencies to program forest and natural resource management concerns in its provincial poverty alleviation strategies.

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<sup>13</sup> Extent of forest resources (Criterion 1), forest biological diversity (Criterion 2), forest health and vitality (Criterion 3), productive functions of forests (Criterion 4), protective functions of forests (Criterion 5), socio-economic functions of forests (Criterion 6), legal policy and institutional framework (Criterion 7), and progress towards sustainable forest management (Criterion 8).

2.8 For example, with CFMSP technical support, ESSC conducted a municipal-level spatial analysis for the Bohol Province on levels of deprivation<sup>14</sup> and development programs, including community-based forest management. The resulting map revealed that community-managed forests are located in municipalities that are most deprived of basic social services. The exercise brought attention to the Carood Watershed Management Council that oversees six municipalities with low human development indices, and boosted investments in their areas, including from the International Model Forest Network. The establishment of baselines for the Upper Chico Watershed in Cordillera also helped to invite investments from the Asian Development Bank-funded Integrated Natural Resources and Environment Management Project.

(b) *Land Use Planning*

2.9 *Establishing strategic partnerships in research to strengthen local governance in land and water management towards greater human security in Mindanao (EPaM)* is a collaborative project of ESSC with the academic sector. The objective is to establish a scientifically sound and culturally adapted participatory strategy for land use planning and monitoring at a catchment level in the uplands to assist the local government to achieve greater human security. Key result areas link with forest-related sustainability criteria and indicators are as follows:

- (i) local knowledge, land use, tenure, needs and suggestions on land management (including forests) are surveyed in four communities and used as an overview for a land information system;
- (ii) biophysical contexts of the four target community areas are identified including assessed risk and sustainability;
- (iii) basic agro-economic agro-system efficiency, social characterization and topsoil fertility is assessed in the target area communities;
- (iv) land/geographic information system is developed, scenarios are generated for the two catchments and alternatives presented to stakeholders; and
- (v) local capacity for conducting land and water research and analysis is built and shared among local government and academic partners.

2.10 The initiative contributes to local level monitoring for Criterion 6 of the Philippine Criteria and Indicators for Sustainable Forest Management, as it assesses the extent of soil and water protection in two local catchments (Upper Pulangi and Cagayan). In the process of modelling land use change scenarios, the initiative also contributes to gathering data for Criterion 2, Forest extent and condition; Criterion 3, Forest Ecosystem Health, and Criterion 7, Economic, Social and Cultural Aspects.

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<sup>14</sup> Percentage of total population 0-83 months who are malnourished; percentage of population with doubtful or non-potable water resources; percentage of population without sanitary toilets; percentage of total population 6-21 years who have dropped out of school.

2.11 Advances in spatial technologies have enabled the project to use remotely sensed measurements of forest extent and condition, and with further sociological and political analysis, even forest ecosystem health to a certain extent. ESSC, as part of the movement promoting free and open source software, is making these technologies more cost-effective and accessible to local governments

2.12 The application of sustainability criteria and indicators that strives to capture the dynamic between the biophysical and socio-cultural processes has prompted ESSC to go beyond working with the Philippine Department of Environment and Natural Resources (DENR) towards collaborating with other government line agencies (e.g. National Statistics Office; Department of Agriculture; Bureau of Soils) especially on economic, social and cultural aspects of sustainable forest management. Partnership with the academic sector, particularly with the University of Namur in Belgium, has helped in refining scientific methods for establishing catchment-level baselines and developing land use change scenarios, given available data and capacities.

(c) *Agroforestry and Assisted Natural Regeneration*

2.13 Two complementary projects implemented in the Upper Pulangi Watershed in Mindanao, Philippines depict how forest-related criteria and indicators are interfaced with other sustainability indicators.

2.14 *Generating Advancement for Upland People (GAUP)* is a project focused essentially on livelihood outcomes among local communities in the upland forested areas of the Upper Pulangi watershed. Its key result areas are:

- (i) establishment of abaca gardens;
- (ii) enhancement of coffee production;
- (iii) sustained forest ecological services for water and electricity;
- (iv) handicraft quality enhancement and marketing;
- (v) coherence and consistency in institutional management; and
- (vi) upland tenure security through ancestral domain titling and re-acquisition of migrant lands.

2.15 At the micro-level, the key result area of work is towards creating the enabling conditions for sustainable forest management through supporting institutional frameworks, economic frameworks, legal frameworks, and planning frameworks. Coherence and consistency in institutional management focused on improving performance and engagement of the tribal council's water and livelihood committees. Assisted natural regeneration is the approach being used for sustaining forest ecological services for water and electricity, in recognition of the important role of forests in sustaining the stream from where the community draws its water and where the micro-hydropower facility providing electricity to their school. A land use plan to manage the resources around the stream is currently being developed.

2.16 *Bridging Leadership in Mindanao (BLM)* aims to nurture a generation of Mindanao leaders grounded on indigenous culture, while finding meaning in engaging with global culture. Indicators for achieving this objective are:

- (i) at least 50 youth leaders have a deepened understanding of themselves and the world affecting them;
- (ii) youth groups from the region show a strengthened commitment for environmental stewardship;
- (iii) youth and young adults are equipped with strategic social and technical skills to actively participate in Mindanao development efforts; and
- (iv) social bridges are built between various youth groups and groups of young adults in Mindanao, as well as between indigenous youth groups and groups of young adults with university students.

2.17 While the key indicators for accomplishment of the objectives are not directly related to forests, the activity level employ forest indicators to measure accomplishment, such as number and extent of assisted natural regeneration sites developed through youth engagement; number of youth training programs (and participants) conducted on agroforestry; number of meetings and visits with private corporations that provide the youth with another perspective on upland agroforestry practices and livelihood strategies; and socio-environmental impacts of extractive industries.

2.18 These two youth-focused projects show that, in the long run, applying sustainability criteria and indicators that are socially enabling and economically inclusive of local communities can serve as basis for improving local capacities; promote security of responsibility and rights of local producers; and, enable the measurement of upland communities' contribution to sustainable development goals.

### 3.0 **Lessons learned**

3.1 Early experience from the cases cited show that using sustainability criteria and indicators in design and monitoring of forest-related projects can:

- (i) aid regional analysis and objective prioritization of countries and sites for engagement;
- (ii) set the basis for establishing baselines and measuring accomplishment of desired outcomes, as well as creating evidence of impact;
- (iii) trigger new ways for stakeholders and sectors to relate to each other; and
- (iv) prompt the flow of investments to the project area.

3.2 Major challenges in applying current regional and national frameworks for forest sustainability criteria and indicators for project design and monitoring include:

- (i) contextualizing current national and regional level indicators so that these can be applied at the project level;

- (ii) adapting these indicators so that they can be more reflective of the interests and needs of small-scale producers at the margins of the economy; and
- (iii) finding and accessing databases that are sufficiently disaggregated to enable analysis at the level of community, village, or catchment/landscape.

3.3 While the criteria for sustainable management of forests are generally comparable at the global, regional and national levels, significant effort is needed for the current indicators to become relevant and applicable at the project level. Global indicators that are too specific or simplified tend to create problems since contexts are so variable and multiple responses are needed.

3.4 Forest sustainability indicators currently being measured and monitored generally reflect forest values from the perspective of large-scale interests such as government forestry ministries and corporations. The focus on disaggregating indicators into permanent and non-permanent forest estates illustrates this perspective. While this disaggregation framework is useful for monitoring forestry-ministry driven programs, it does not hold much relevance for other sectors implementing projects that impact forests. Disaggregating data into permanent forest estate and non-permanent forest estate also creates an impression that forestry ministries are using criteria and indicators to protect their “turf” and exhibit their power, which risks broadening collaboration opportunities with other sectors.

3.5 Social, cultural and governance indicators can provide greater basis for applicability in and links to other sectors, especially those focused on human development. Currently, however, data is sparse for these types of indicators. Furthermore, the monitored indicators in general are still geared towards servicing needs of large-scale corporations and forestry ministries. To provide greater basis for applicability of forest-related indicators, indicators for the social, economic, and cultural aspects should be improved through using or linking them with indicators used in other sectors. Interfacing sustainable forest management criteria and indicators with other human development–related indicator sets can help to promote support for the forest sector among local governments and other sectors.

#### 4.0 **Needs for further development and promotion**

4.1 The current set of criteria and indicators for sustainable forest management of DENR recognizes that “land use plans are important to ensure sustainable forest management, especially of the permanent forest estate, in relation to other sectors of the economy”.<sup>15</sup> This framework is also on the right path in that it has allotted the most number of indicators for the criterion on economic, social and cultural aspects (14 out of 56 indicators or 25% of the total).

4.2 However, the framework is still weak in reflecting the interests and needs of forest-dependent communities, composed of around 30 million people in the country,

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<sup>15</sup> [http://forestry.denr.gov.ph/CnI\\_Framework.pdf](http://forestry.denr.gov.ph/CnI_Framework.pdf)

about half of them indigenous to their area. As such, land use planners and implementers of socially-oriented projects that strive to respond to people's needs in areas with forests find little relevance in the current framework.

## **5.0 Recommendations on further development and use**

5.1 To make forest sustainability criteria and indicators more relevant to project design and monitoring, including land use planning and agroforestry, the following actions are recommended:

- (i) review indicators from the perspective of other sectors influencing land use in forested areas and along its fringes;
- (ii) find ways to enable data disaggregation to service sub-national and landscape-level interests i.e. regional, provincial, municipal, village, community;
- (iii) support capacities for baseline data development and geo-referencing as part of the criteria and indicators monitoring system, and make results accessible to local planners; and
- (iv) encourage interface between scientifically sound and culturally adapted monitoring methods for criteria and indicators through, for example, combining remote sensing technologies and participatory mapping approaches.

5.2 To promote wider use of forest sustainability criteria and indicators, the following actions are proposed:

- (i) invite other sectors in the process of reviewing criteria and indicators frameworks and use more inclusive language when refining indicators to promote inter-sectoral collaboration especially for monitoring, for instance through drawing from indicators already being monitored in other sectors;
- (ii) use the process of developing country outlook papers as one platform for reviewing applicability of the criteria and indicators framework and in refining indicators; and
- (iii) communicate the framework outside the forestry sector, for example, to local governments, schools, community-based organizations etc.

5.3 As an institute that employs environmental science to encourage social change, ESSC is interested in contributing to further developing and promoting criteria and indicators for sustainable management of forests through:

- (i) assessing the relevance and usefulness of criteria and indicators to other sectors and at sub-national level, especially social and governance aspects;

- (ii) developing and testing indicators for monitoring the role of forests in supplying other ecosystem services (e.g. soil and water regulation, cultural, spiritual) and non-wood forest products (e.g. abaca); the contribution of small-scale producers and forest-based youth to sustainable forest management; and the relationships between forests and disaster risks;
- (iii) continuing to contribute a Philippine perspective to the Global Forest Resources Assessment process; and
- (iv) exchanging knowledge and experience gained through various initiatives to help promote sustainable management of forests.

## 6.0 **Conclusions**

6.1 The present set of criteria and indicators for sustainable forest management are, in general, globally consistent and accepted among national forestry ministries. However, indicators are largely ministry-centric and corporate-oriented, with limited recognition of small-scale efforts to promote sustainable management of forests. Project-level initiatives such as the ones cited in this paper found a number of challenges and risks in applying the current set of forest sustainability criteria and indicators to project design and monitoring.

6.2 The greatest improvement can be made in the social and governance aspects of the current criteria and indicators framework. If indicators for these aspects can be refined to be more inclusive of interests from sectors promoting human development, then criteria and indicators for sustainably managing forests can become much more relevant to and used among a wider set of actors. This refinement process needs to be accompanied by investments and in communicating the next generation of criteria and indicators for sustainable forest management more widely outside the forestry sector.